

Arizona State Retirement System Board



US Equity Large Cap Asset Class

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May 18, 2007

Presentation Topics

- **US Equity Large Cap Manager Reviews (Aggregate)**

- Asset Class Snapshot
- Mandates Overview
- Risk/Return Bubble Chart
- Overview Risk Parameters
 - Alpha
 - Information Ratio
 - Peer Review
- Positions
 - Style Analysis
 - Economic Sectors

- **US Equity Large Cap Manager Reviews (Individual)**

- Qualitative Factors: People, Philosophy, Process
- Performance Analysis (Returns – Based)
 - Alpha
 - Information Ratio
 - Peer Review
- Positions (Holdings – Based)
 - Style Analysis – Portfolio Style Skyline
 - Economic Sectors

ASRS US Equity Large Cap Asset Class (Aggregate)

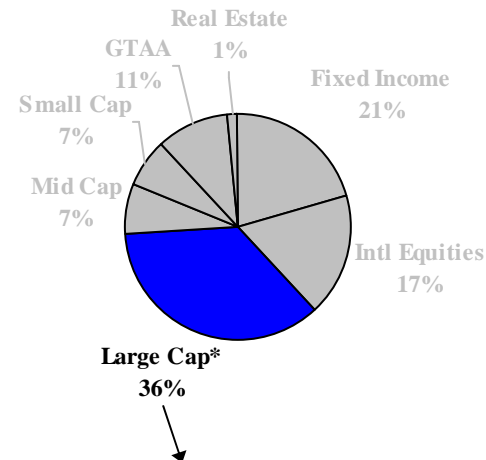
ASRS US Equity Large Cap Asset Class

March 31, 2007

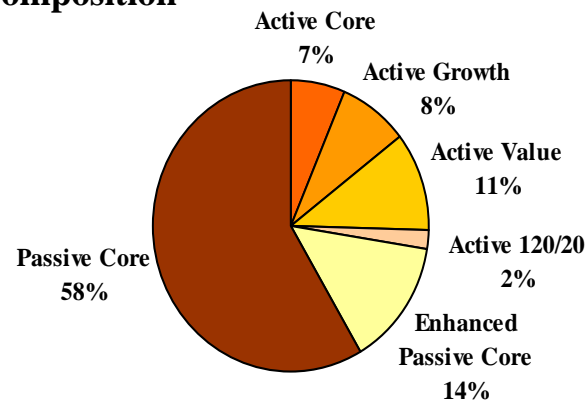
- Market Value: \$9.6b
- Passive Percent: 72%
 - Target 65% \pm 10%
- Active Style Composition:
 - Core: 23%
 - Growth: 29%
 - Value: 40%
 - 120/20: 8%
- Portfolios:
 - 3 Passive
 - 5 Active:
 - Quantitative: 5
- Average Fee: 8 bps

* The US Equity Large Cap Asset Class excludes GTAA US Equity allocations.

Total Fund
\$26.8 billion



Style Composition



ASRS US Equity Large Cap Managers

Mandates Overview

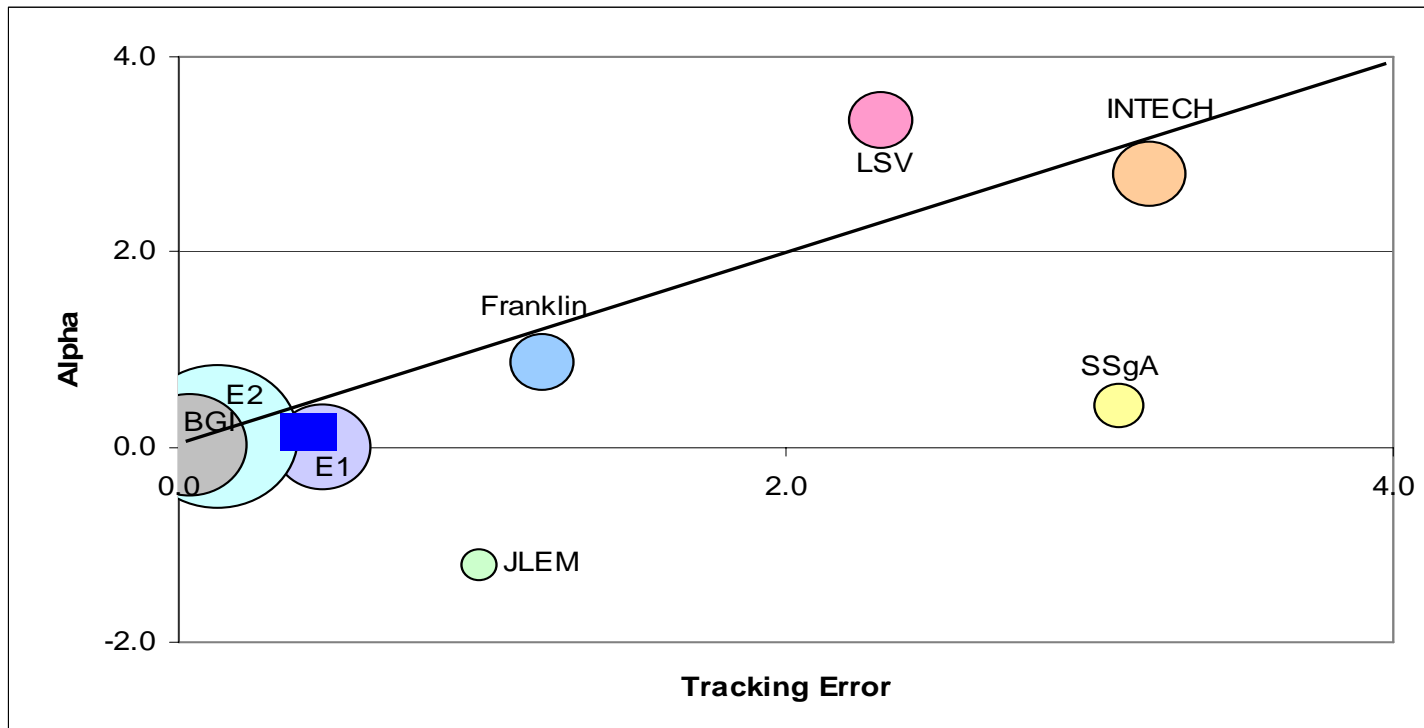
March 31, 2007

Manager	Style	Benchmark	Inception	Portfolio Assets (\$mil)	Strategy Assets (\$mil)
Active					
Franklin	Core	S&P 500	12/31/02	\$ 625	\$ 9,999
INTECH	Growth	S&P 500 Growth	12/31/02	\$ 764	\$ 30,891
LSV	Value	S&P 500 Value	12/31/02	\$ 663	\$ 27,900
SSgA	Value	S&P 500 Value	12/31/02	\$ 395	\$ 2,443
Jacobs Levy	120/20	S&P 500	10/31/06	\$ 208	\$ 374
Passive					
ASRS E1	Core	S&P 500	9/30/95	\$ 1,356	N/A
ASRS E2	Core	S&P 500	3/31/97	\$ 3,669	N/A
BGI	Core	S&P 500	7/31/89	\$ 1,943	\$ 179,049

Risk/Return Bubble Chart

ASRS US Equity Large Cap Asset Class

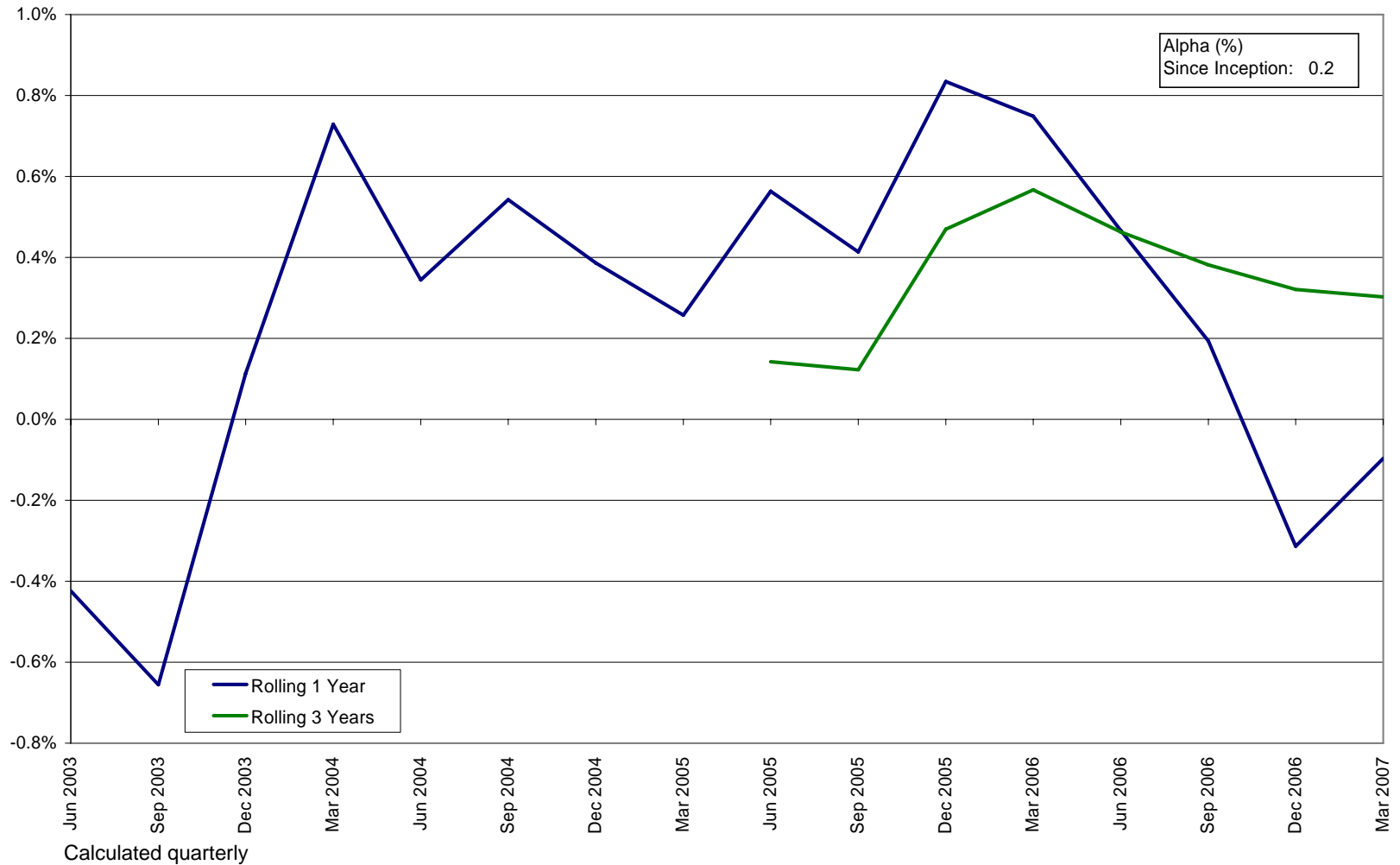
Inception Date – Period Ending March 31, 2007



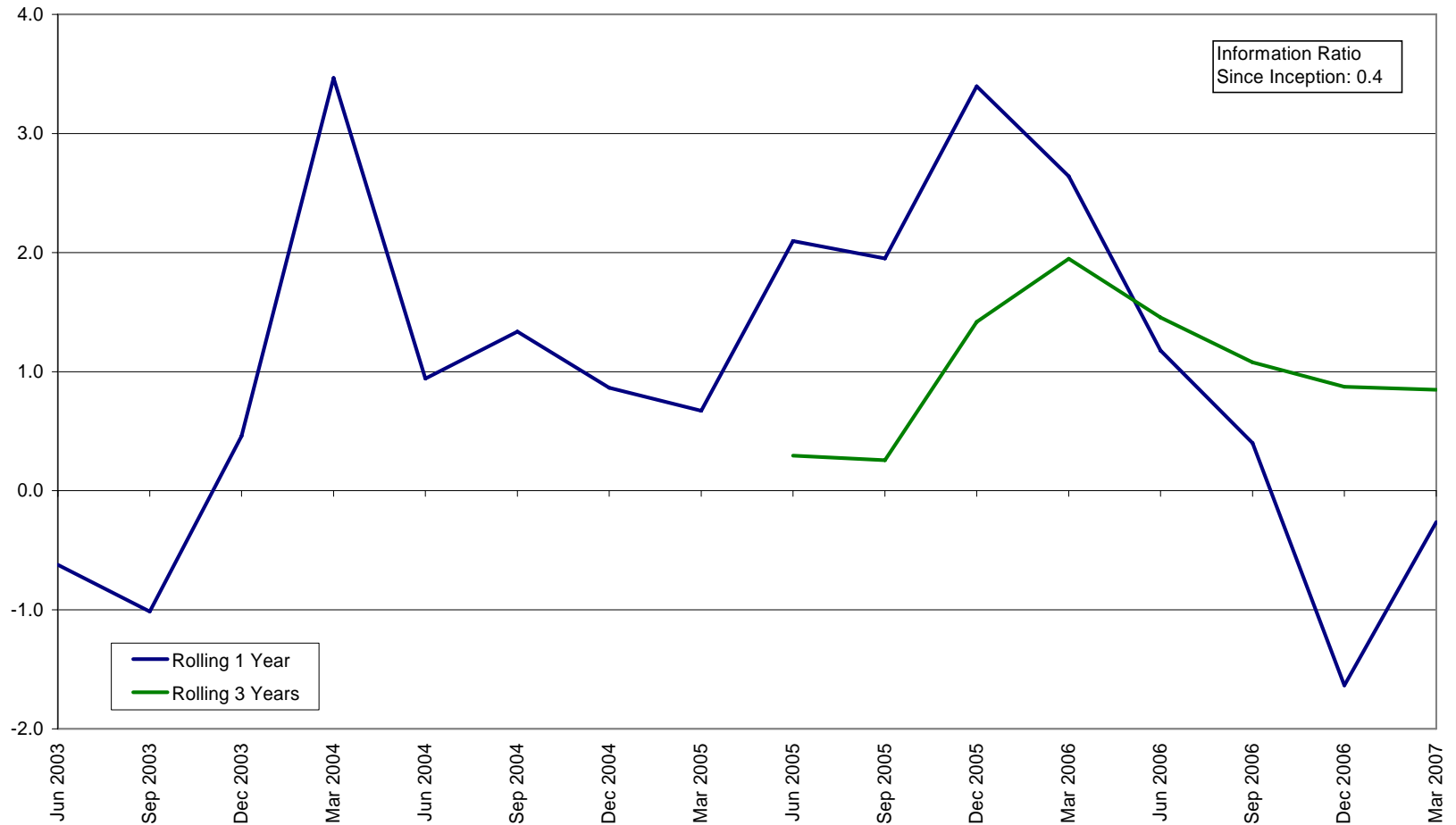
	Manager	Portfolio Size	Inception	Alpha	Tracking Error	Information Ratio
●	Franklin	\$ 625.4	12/31/2002	0.9	1.2	0.7
●	INTECH	\$ 764.3	12/31/2002	2.8	3.3	0.9
●	LSV	\$ 662.6	12/31/2002	3.4	2.4	1.4
●	SSgA	\$ 394.9	12/31/2002	0.4	3.2	0.1
●	JLEM*	\$ 207.9	10/31/2006	-1.1	1.1	-1.0
●	E1	\$ 1,355.8	09/30/1995	0.0	0.5	0.0
●	E2	\$ 3,668.6	03/31/1997	0.11	0.14	0.8
●	BGI	\$ 1,943.4	07/31/1989	0.01	0.02	0.5
■	Asset Class	\$ 9,622.9	06/30/2002	0.19	0.43	0.4

* Jacobs Levy calculations include only 5 monthly data points as the inception date was 10/31/2006

Alpha
ASRS US Equity Large Cap Asset Class
Inception Date June 30, 2002 - Period Ending March 31, 2007



Information Ratio
ASRS US Equity Large Cap Asset Class
Inception Date June 30, 2002- Period Ending March 31, 2007

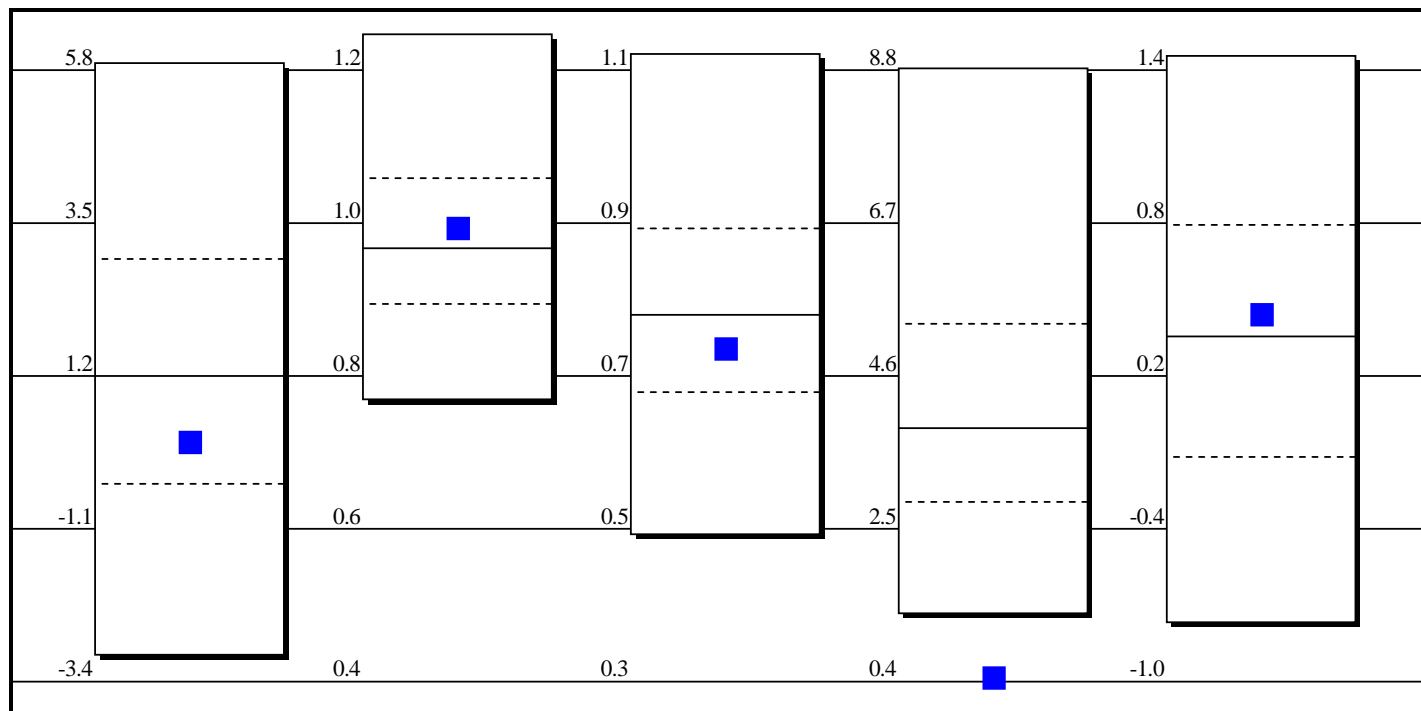


Calculated quarterly

Peer Comparison with the Mercer US Equity Large Cap Equity Universe

Total Fund Large Cap Equity

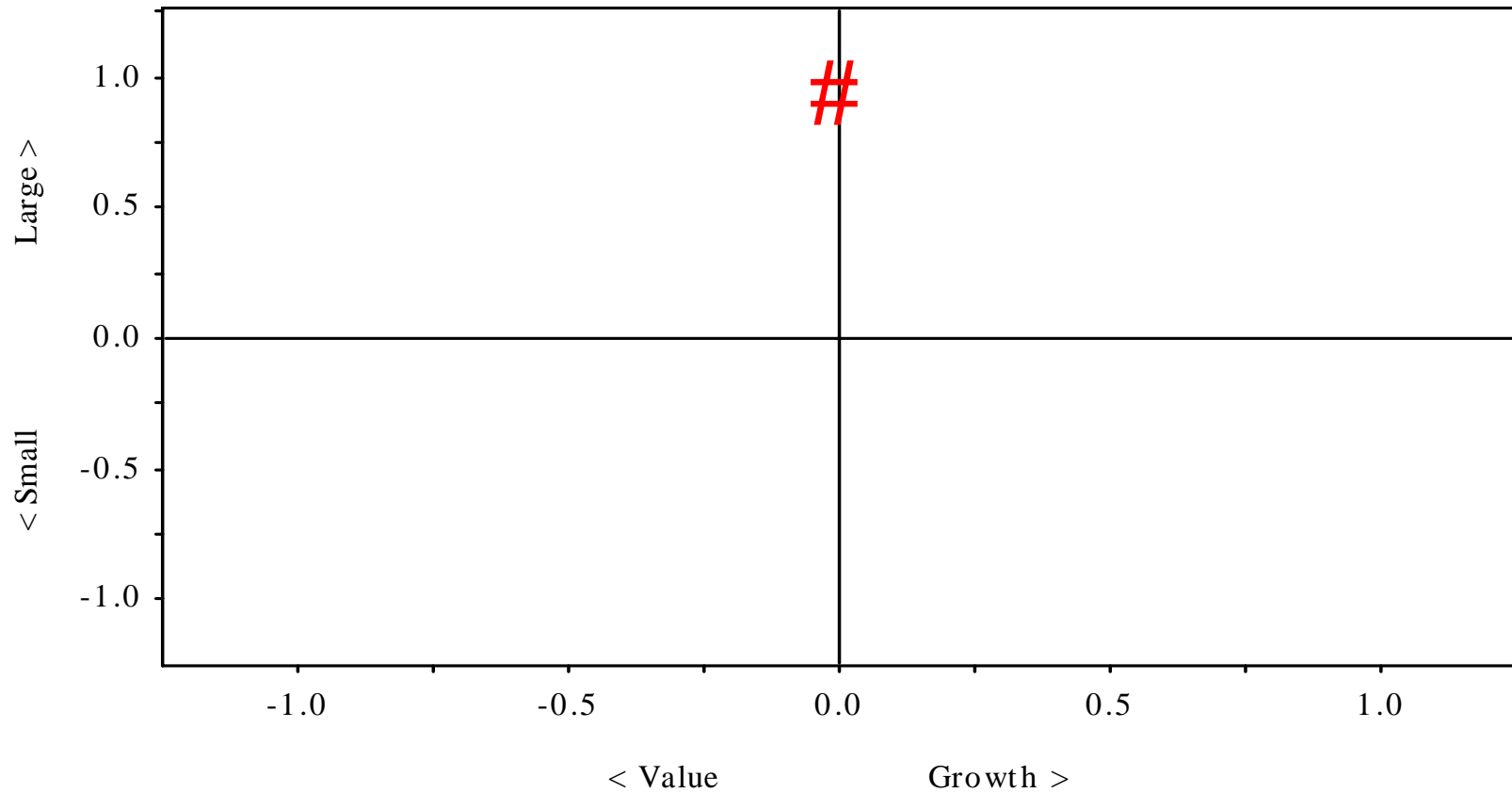
Inception Date June 30, 2002 – Period Ending March 31, 2007



	Excess Return (% pa)	Beta	Reward to Risk	Tracking Error (% pa)	Information Ratio
Total LCE	0.2 (67)	1.0 (42)	0.7 (63)	0.4 (100)	0.4 (45)
5th Percentile	5.9	1.2	1.1	8.8	1.5
Upper Quartile	3.0	1.1	0.9	5.3	0.8
Median	1.2	1.0	0.8	3.9	0.4
Lower Quartile	-0.4	0.9	0.7	2.9	-0.1
95th Percentile	-3.0	0.8	0.5	1.3	-0.8
Number of Funds	660	660	660	660	660

Risk and Return Characteristics calculated quarterly versus S&P500

Positions: Style Analysis
ASRS US Equity Large Cap Asset Class
July 2002 to March 2007

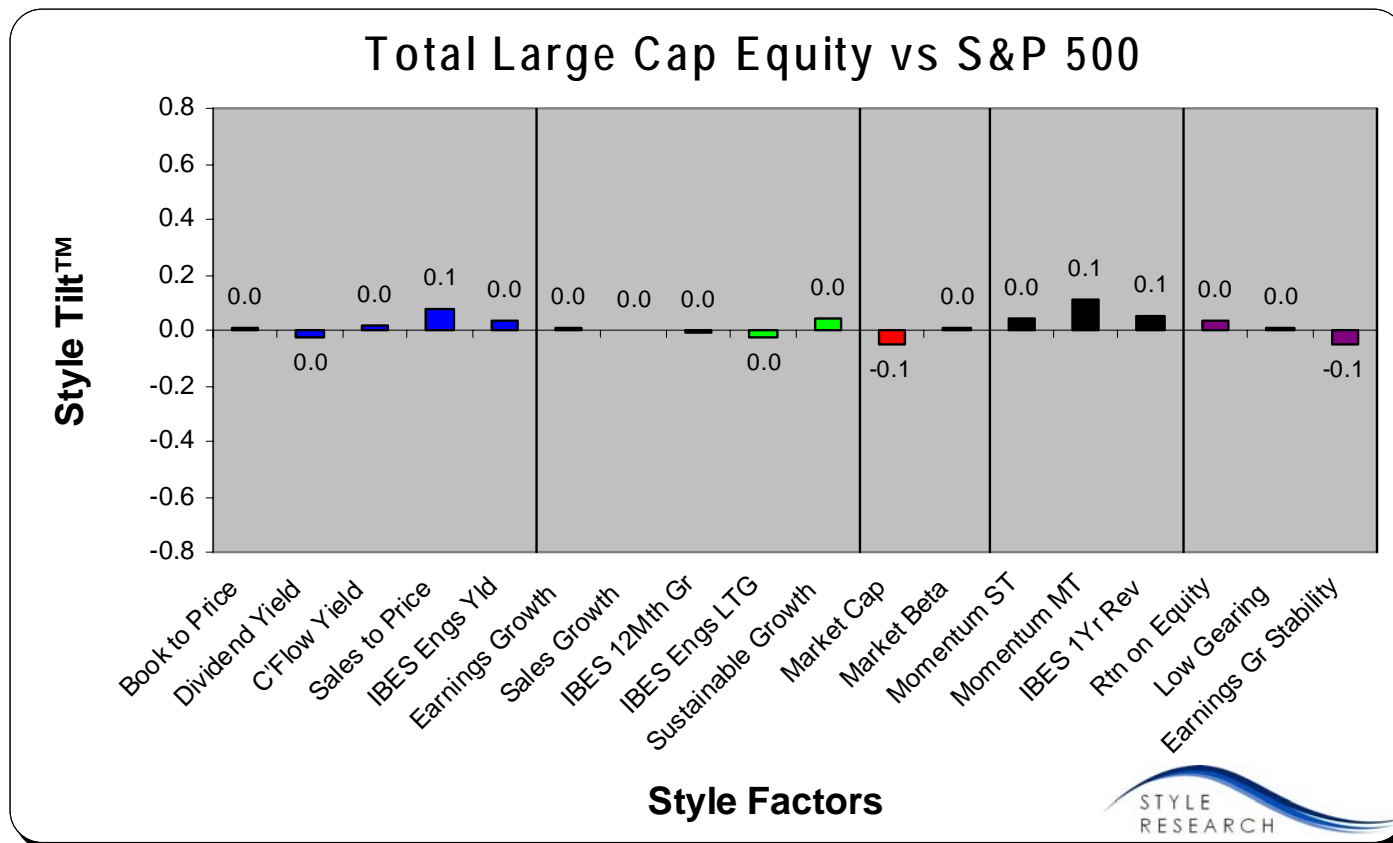


LC Asset Class

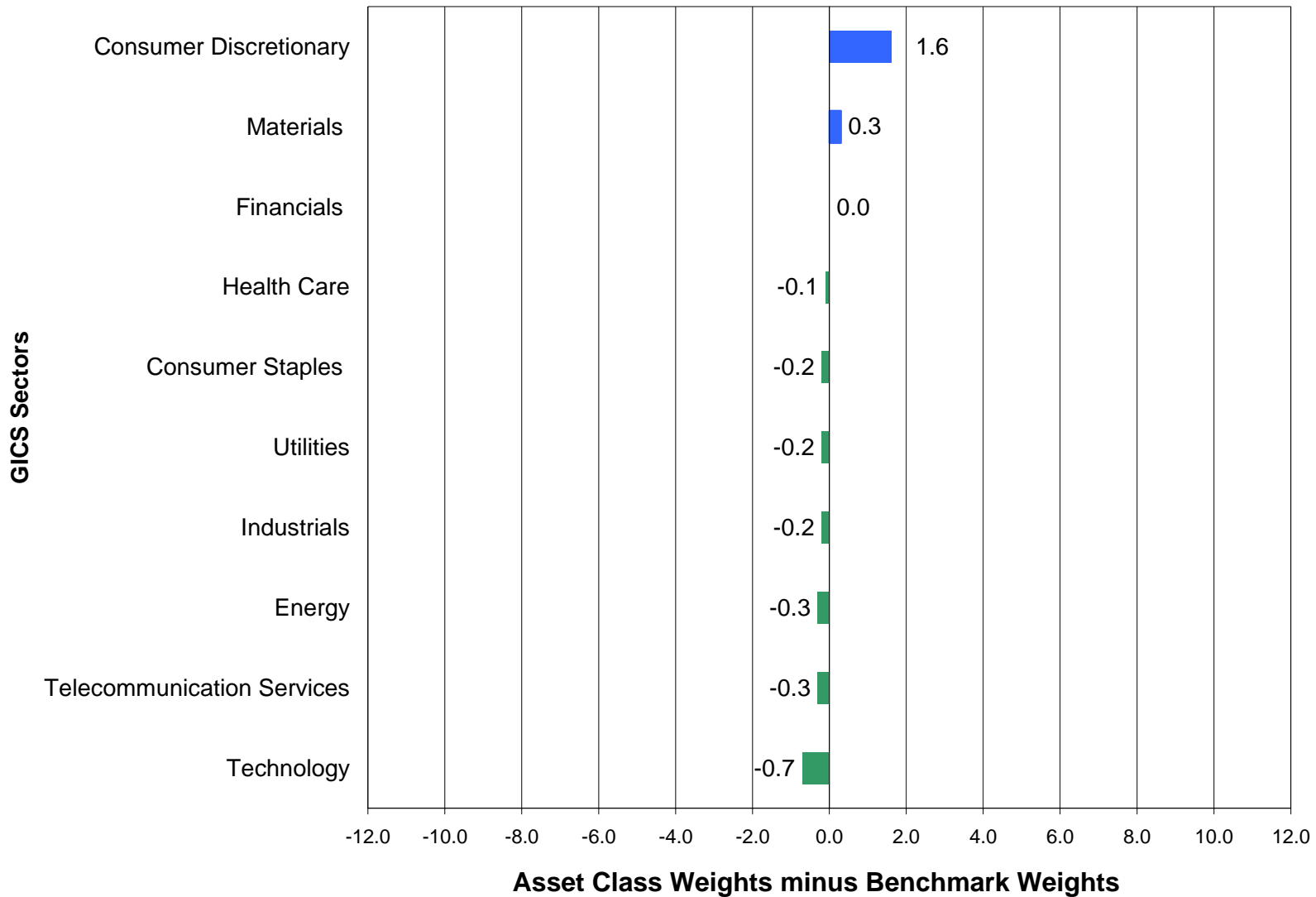
Positions: Style Analysis – Portfolio Style Skyline

Total Fund Large Cap Equity

As of March 31, 2007



Positions: Economic Sectors
ASRS US Equity Large Cap Asset Class
As of March 31, 2007



Reflects all passive and active portfolios

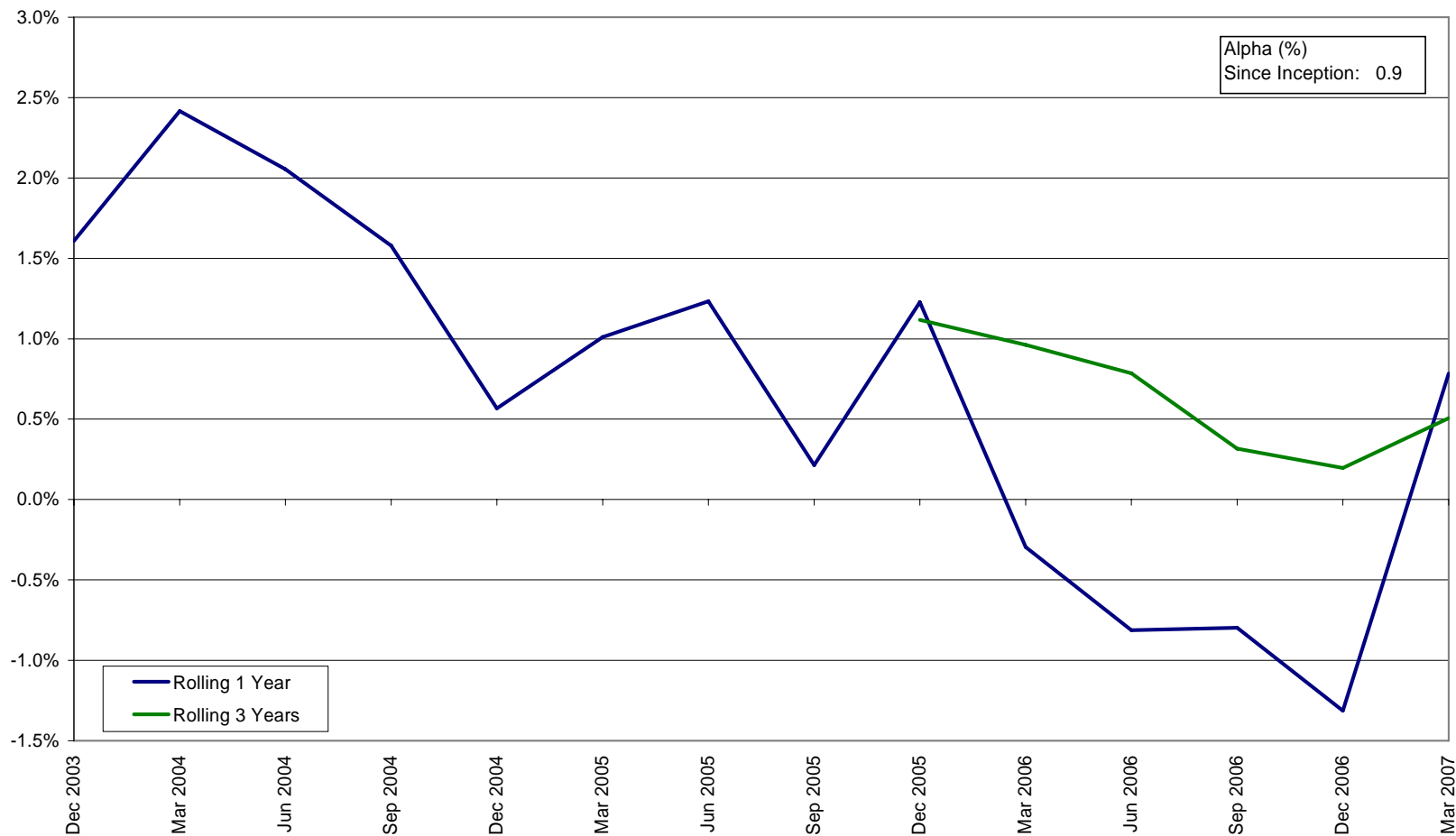
US Equity Large Cap Manager Reviews (Individual)

Franklin Portfolio Associates

Qualitative Factors

Factors	Description
People	<ul style="list-style-type: none"> • Research and portfolio management are combined functions. All portfolio managers are involved in ongoing research to improve stock ranking and implementation processes. • Portfolio management is a team function - portfolio managers do not specialize by strategy, and all stock selection relies on the same underlying stock ranking process.
Philosophy	<ul style="list-style-type: none"> • Believe that security mispricings occur continually in the market and that undervalued securities can be identified using quantitative computer models.
Process	<ul style="list-style-type: none"> • Valuation and growth/momentum characteristics are approximately equal weighted at 45%, management signals make up the remaining 10%. • The impact of sector, size and style are minimized. • Stock ranking model consists of over 40 individual factors, which independently rank stocks. Weights are then assigned to the individual factors to produce a composite weighting that forecasts a stock's potential relative return 3-6 months into the future. • A proprietary process is used to remove industry/style effects that distort a fair comparison across a wide universe of securities. • Portfolios are rebalanced using a Barra optimizer.

Alpha
Franklin Portfolio Associates
Inception Date December 31, 2002 - Period Ending March 31, 2007

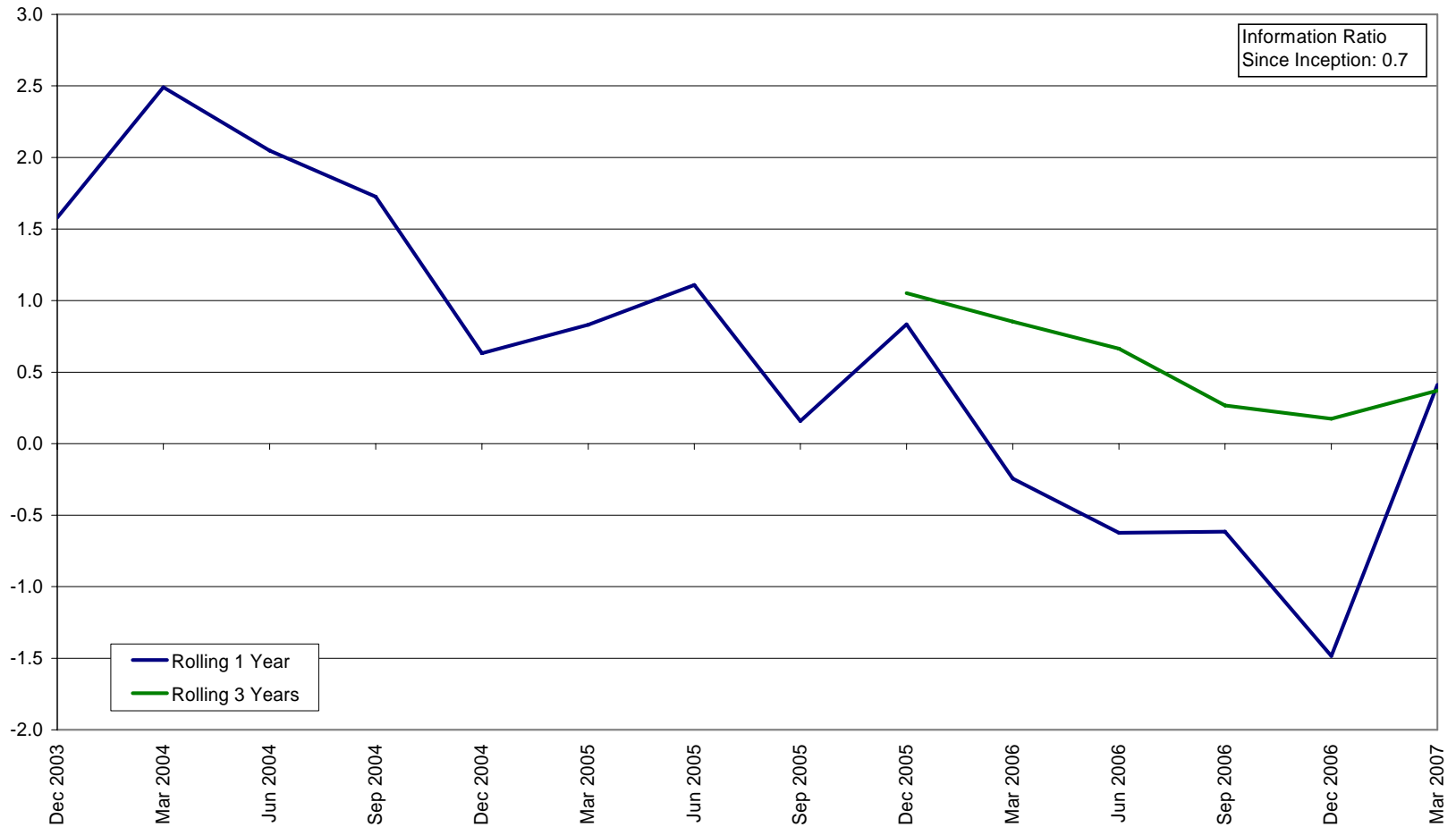


Calculated quarterly

Information Ratio

Franklin Portfolio Associates

Inception Date December 31, 2002- Period Ending March 31, 2007

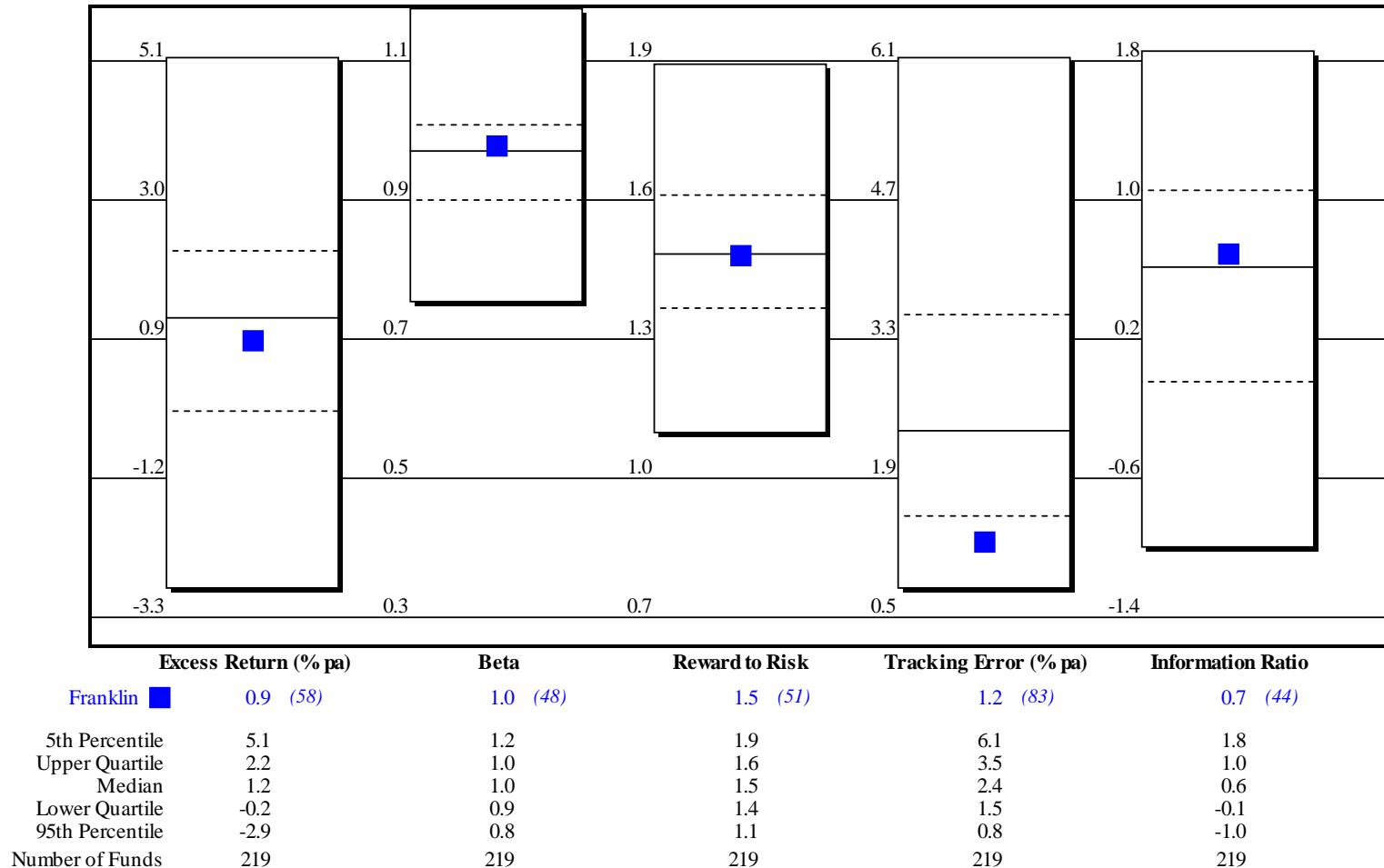


Calculated quarterly

Peer Comparison with the Mercer US Equity Large Cap Core Universe

Franklin Portfolio Associates

Inception Date December 31, 2002 - Period Ending March 31, 2007

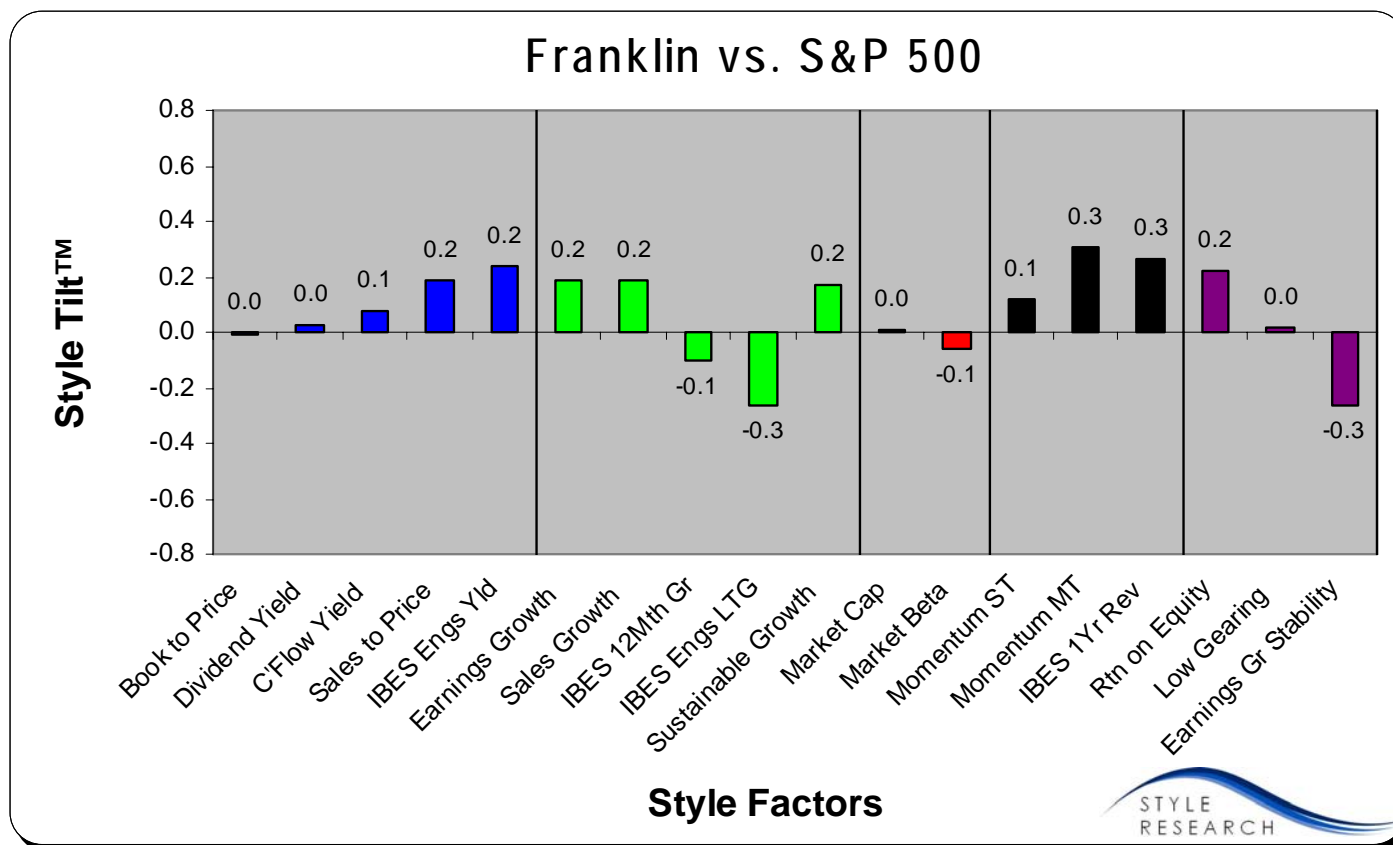


Risk and Return Characteristics calculated quarterly versus S&P 500

Positions: Style Analysis – Portfolio Style Skyline

Franklin Portfolio Associates

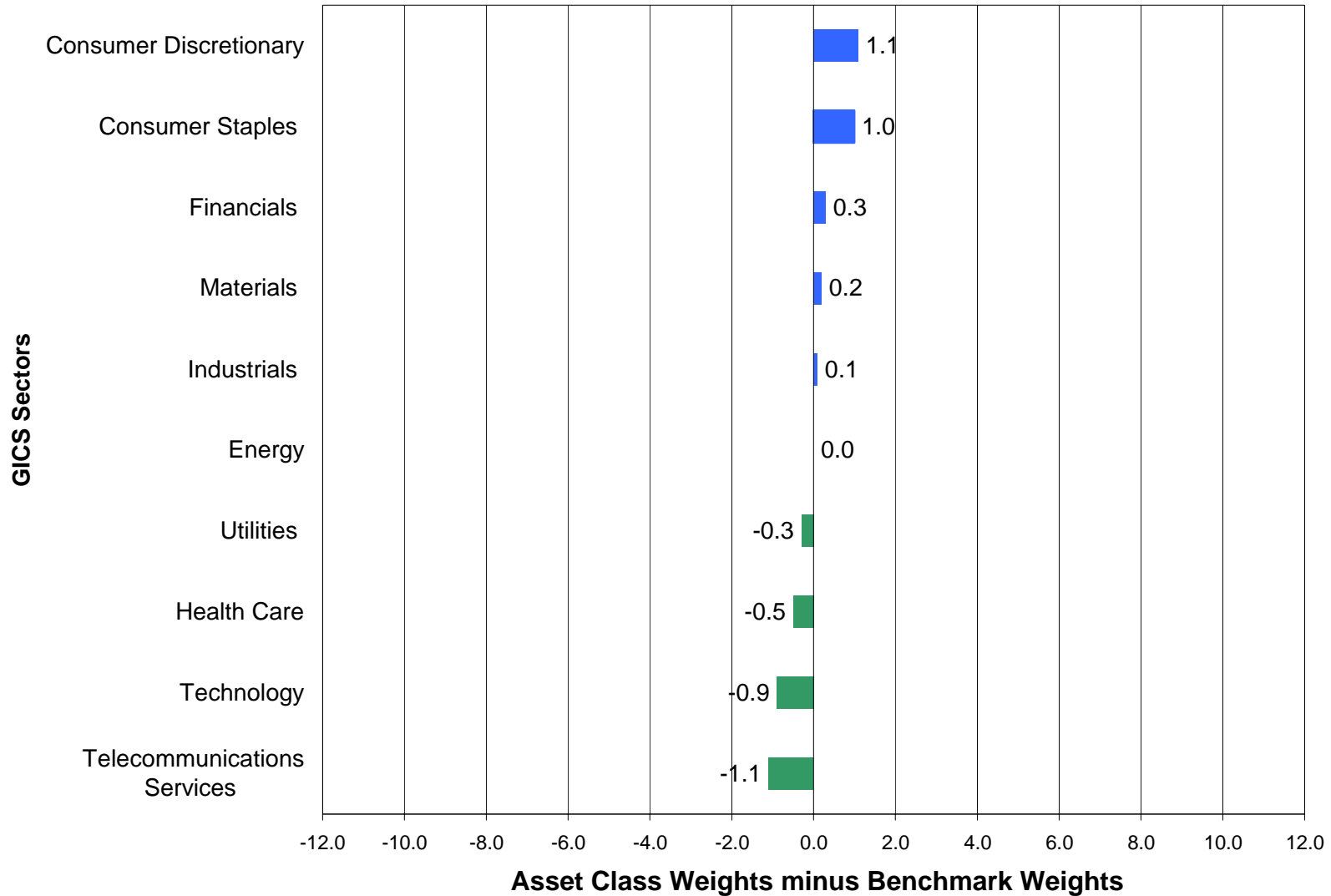
As of March 31, 2007



Positions: Economic Sectors

Franklin Portfolio Associates

As of March 31, 2007



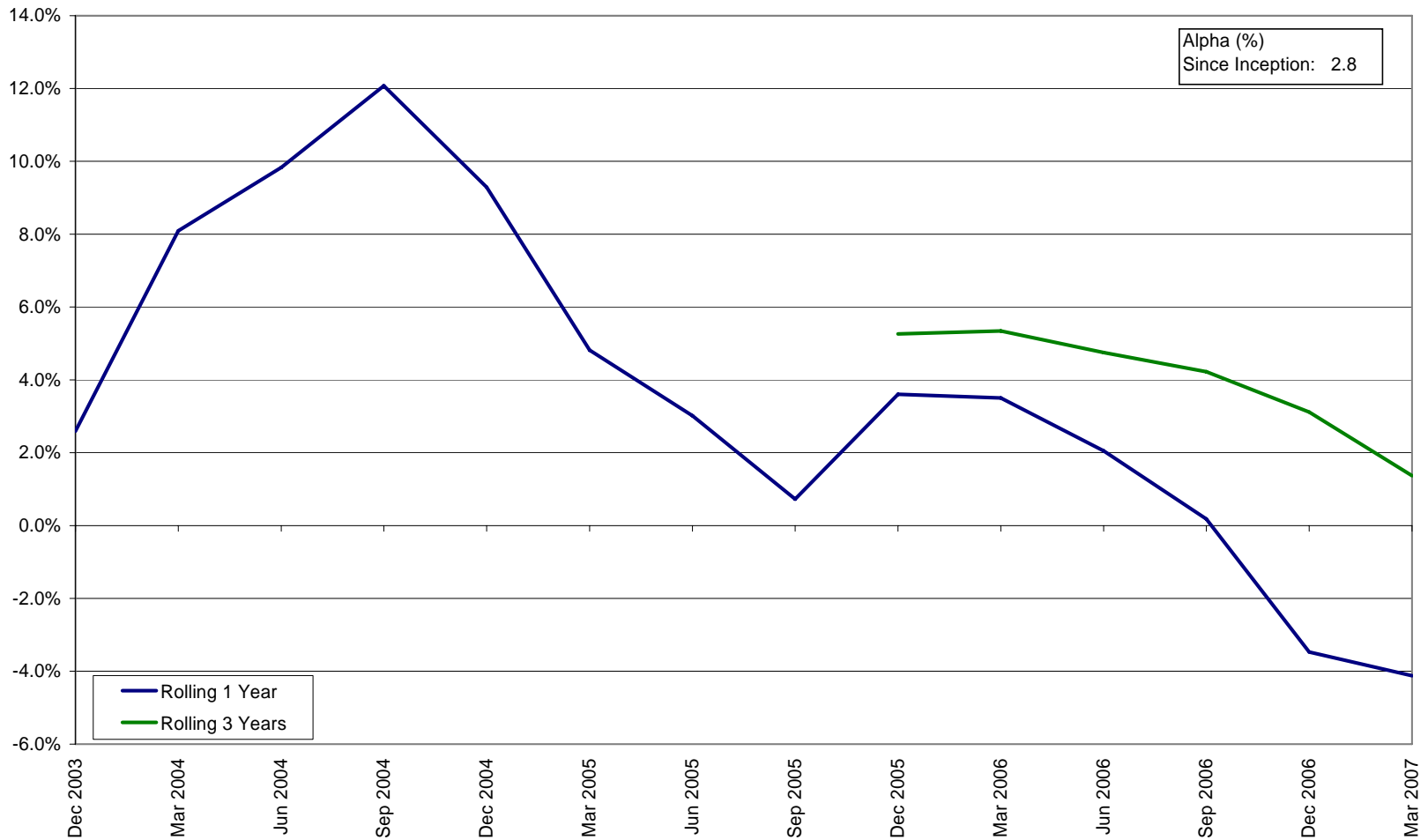
INTECH

Qualitative Factors

Factors	Description
People	<ul style="list-style-type: none"> • Key functions have at least two people assigned, so there will always be back up in the event of a loss of a person. All portfolios are managed on a team basis. • Due to the mathematical nature of INTECH's strategies, no traditional portfolio managers, research analysts or traders are employed.
Philosophy	<ul style="list-style-type: none"> • Based on the research of Dr. Robert Fernholz, INTECH believes that by combining securities with high relative volatility, but low covariance, more efficient portfolios can be constructed.
Process	<ul style="list-style-type: none"> • INTECH seeks to re-weight the benchmark index to a more efficient combination. • Utilize the relative volatility of stock prices to attempt to capture excess return as opposed to predicting alpha. • The only input to the investment process is historical stock price. The investment process attempts to combine stocks with high relative volatility and low correlation in target weightings in a portfolio designed to provide excess return while minimizing risk. • Optimization and rebalancing is key to maintaining weights over time. • All research is oriented towards mathematical finance and its application to portfolio management and system improvements.

Alpha INTECH LCG

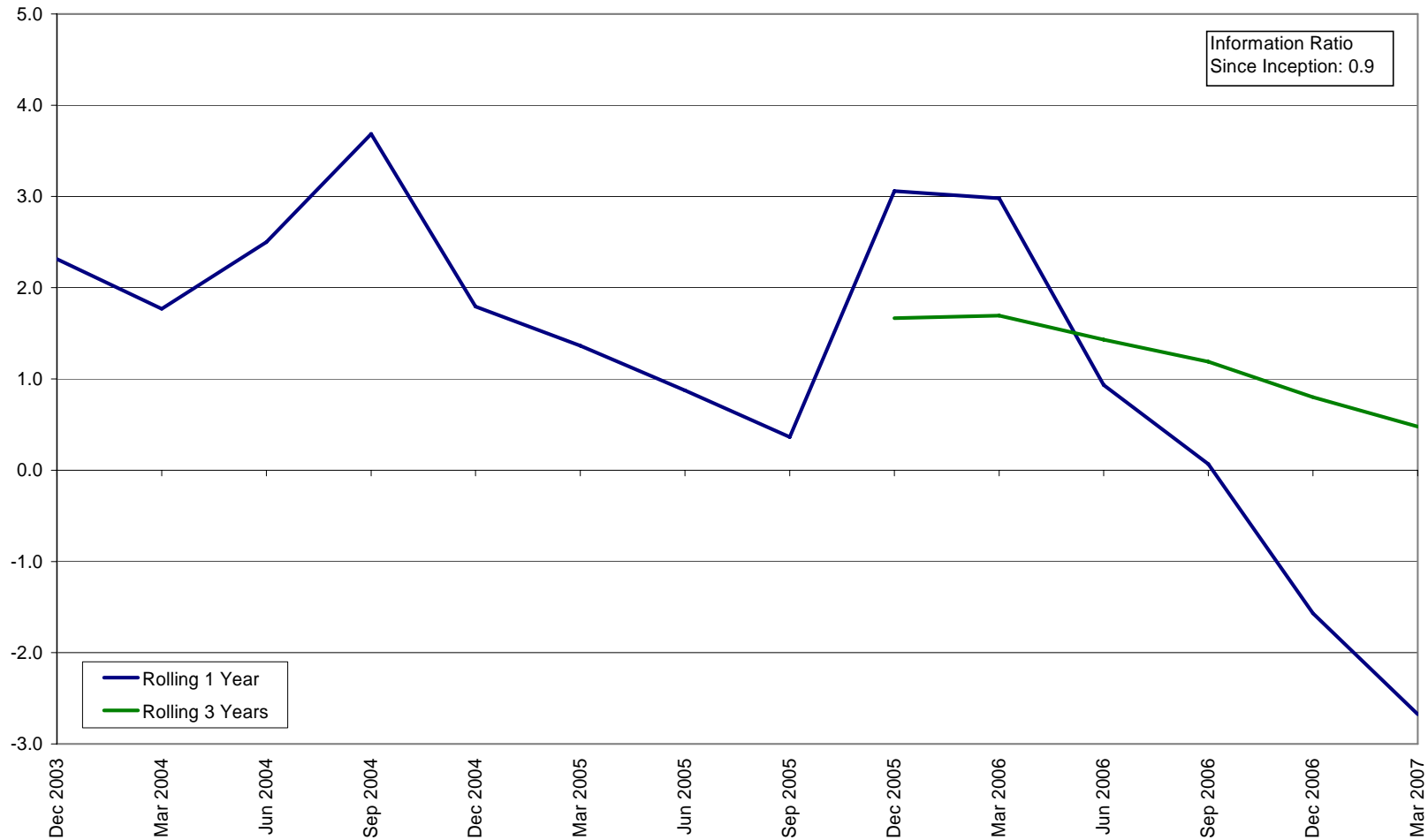
Inception Date December 31, 2002- Period Ending March 31, 2007



Calculated quarterly

Information Ratio INTECH LCG

Inception Date December 31, 2002 - Period Ending March 31, 2007

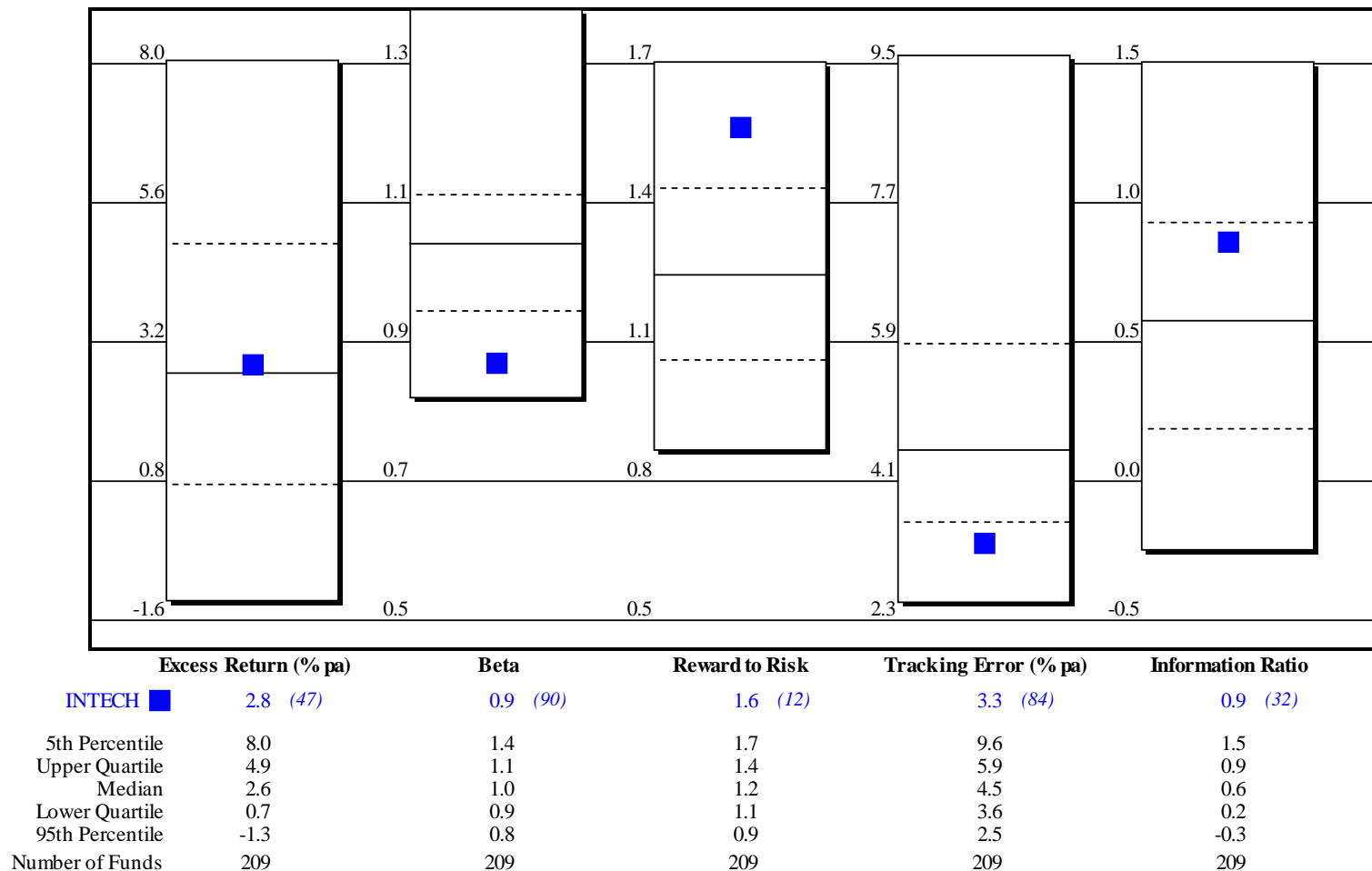


Calculated quarterly

Peer Comparison with the Mercer US Equity Large Cap Growth Equity Universe

INTECH LCG

Inception Date December 31, 2002 - Period Ending March 31, 2007

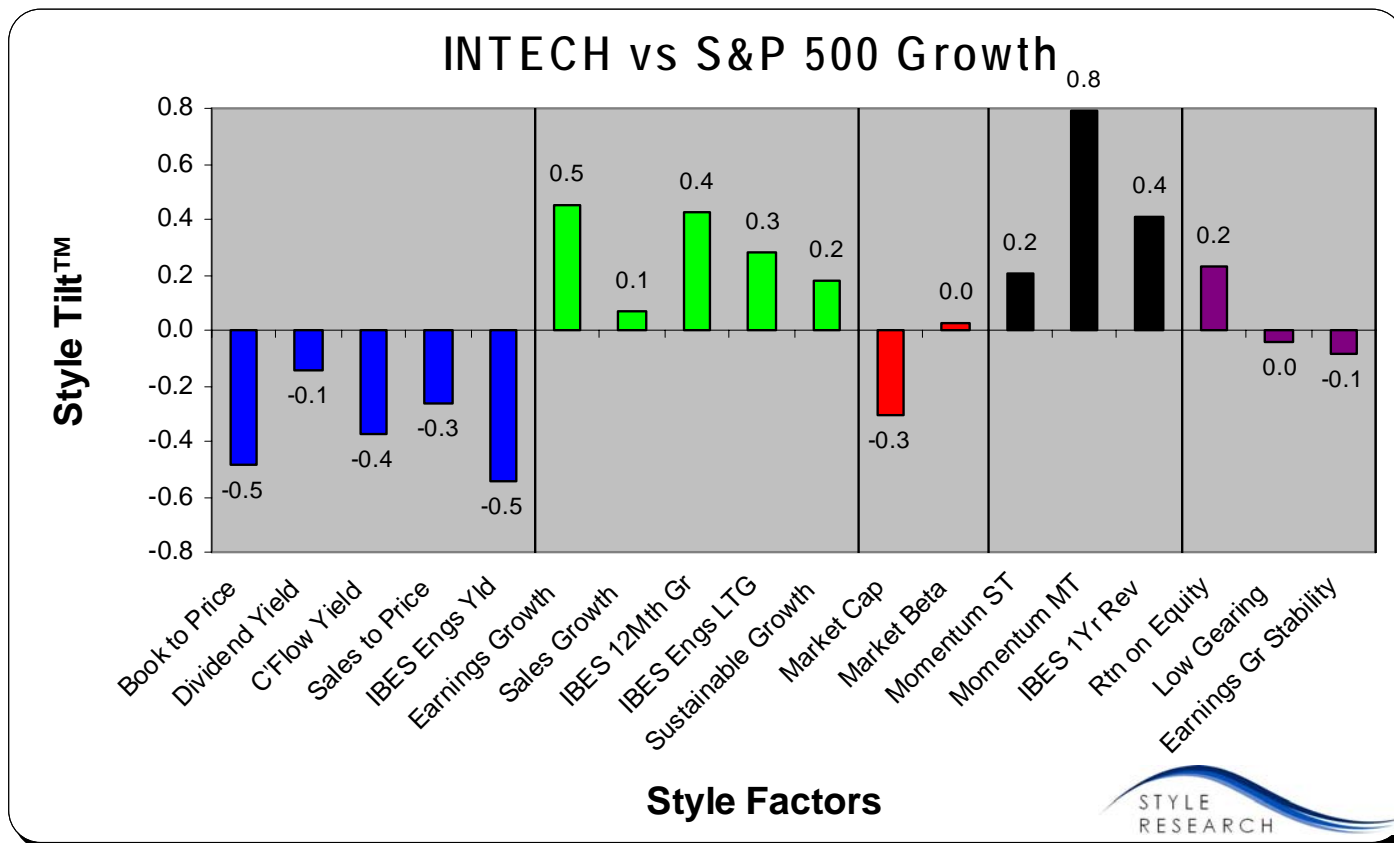


Risk and Return Characteristics calculated quarterly versus Custom Benchmark

Positions: Style Analysis – Portfolio Style Skyline

INTECH LCG

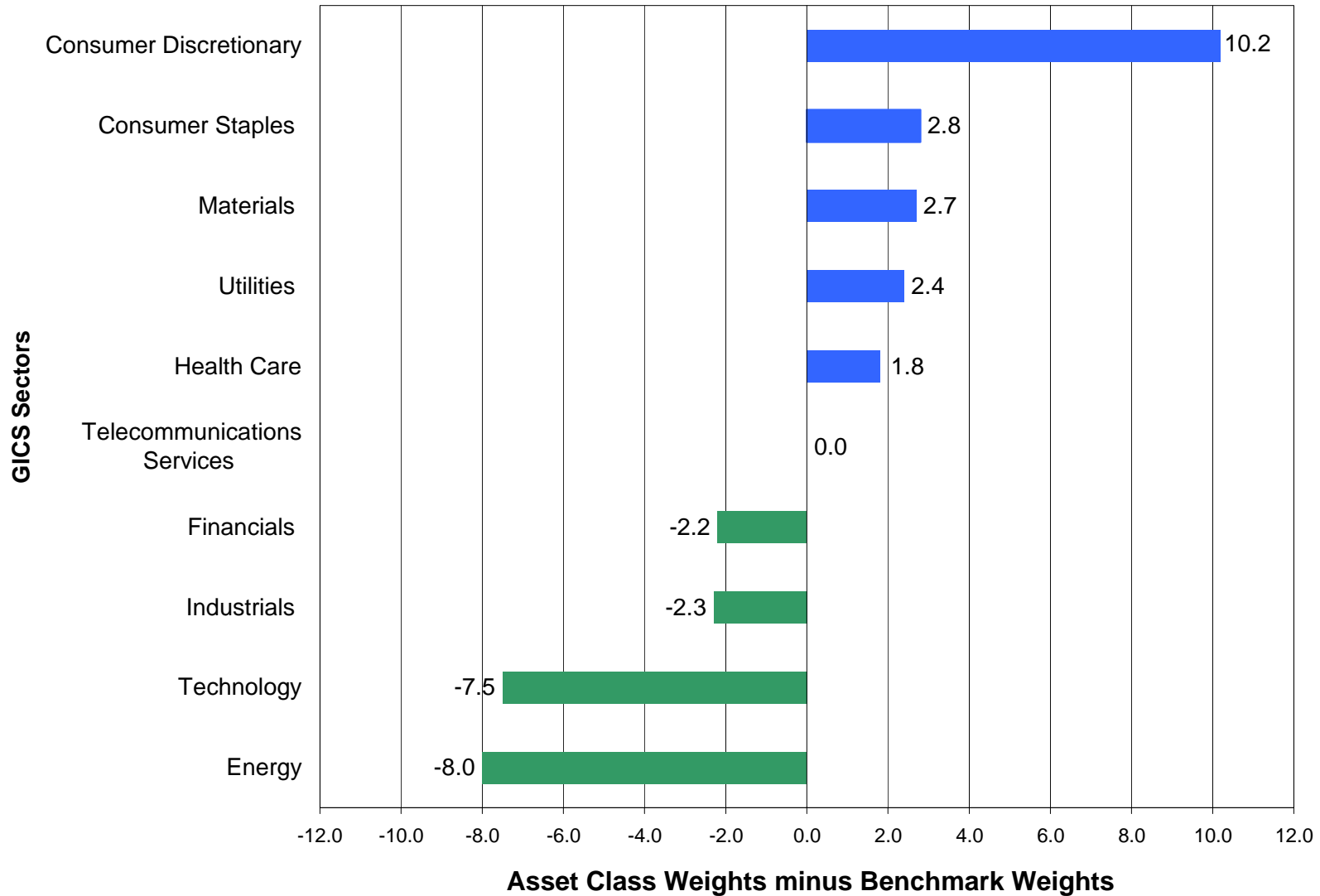
As of March 31, 2007



Positions: Economic Sectors

INTECH LCG

As of March 31, 2007



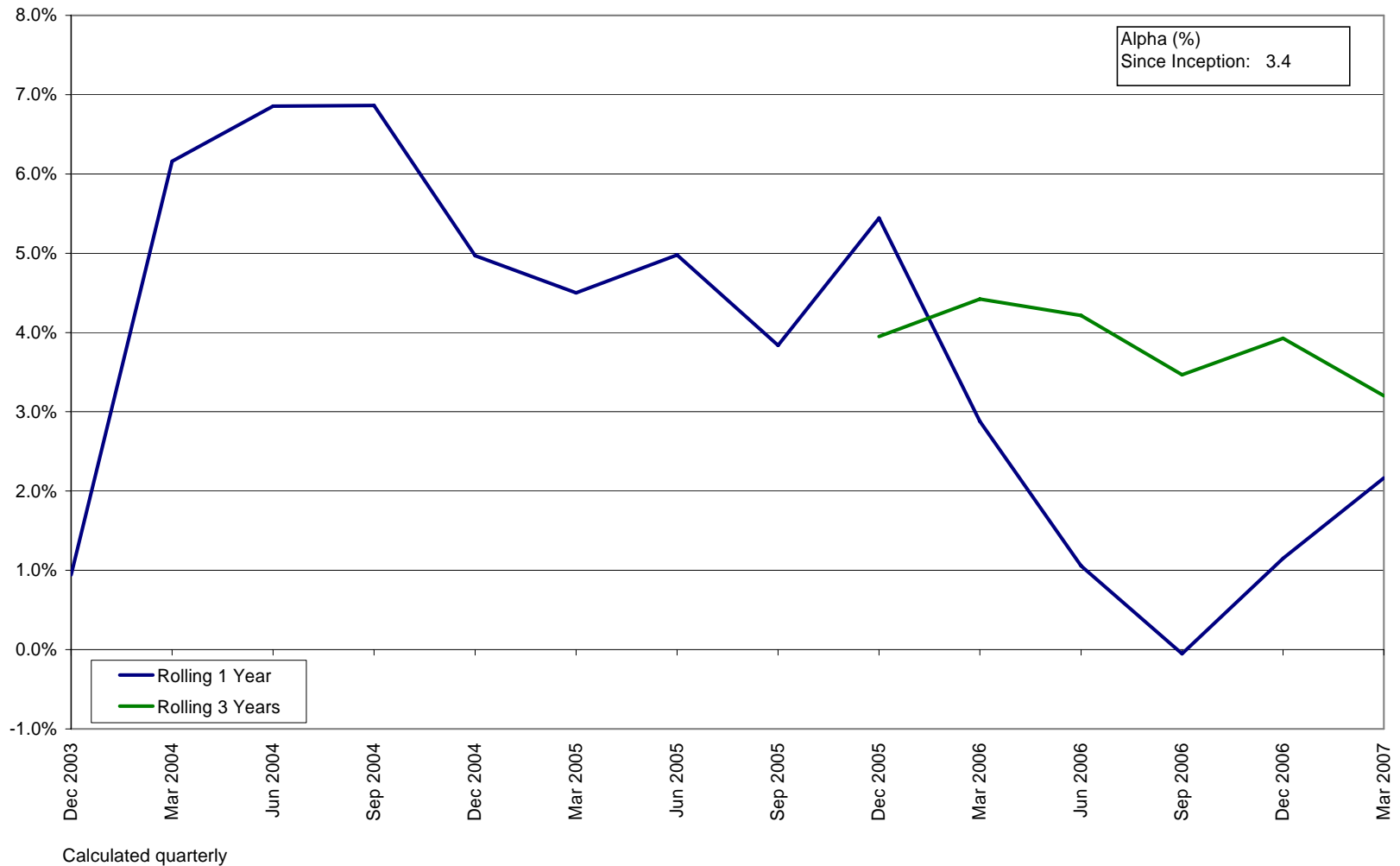
LSV Asset Management

Qualitative Factors

Factors	Description
People	<ul style="list-style-type: none"> • No turnover in investment management team • The same team of academics and quantitative analysts is responsible for managing all value equity portfolios.
Philosophy	<ul style="list-style-type: none"> • Based on original academic research in behavioral finance, LSV believes markets are inefficient as investors tend to extrapolate past performance too far into the future.
Process	<ul style="list-style-type: none"> • Quantitative approach ranks stocks on fundamental measures of value, past performance and indicators of near-term potential. • Portfolio is optimized to ensure the portfolio is broadly diversified across industries and companies. • Control tracking error relative to the benchmark by maintaining strict buy/sell criteria. • Deep value orientation • The competitive strength of this strategy is that it avoids introducing to the process any judgmental biases and behavioral weaknesses that often influence investment decisions.

Alpha LSV Asset Management

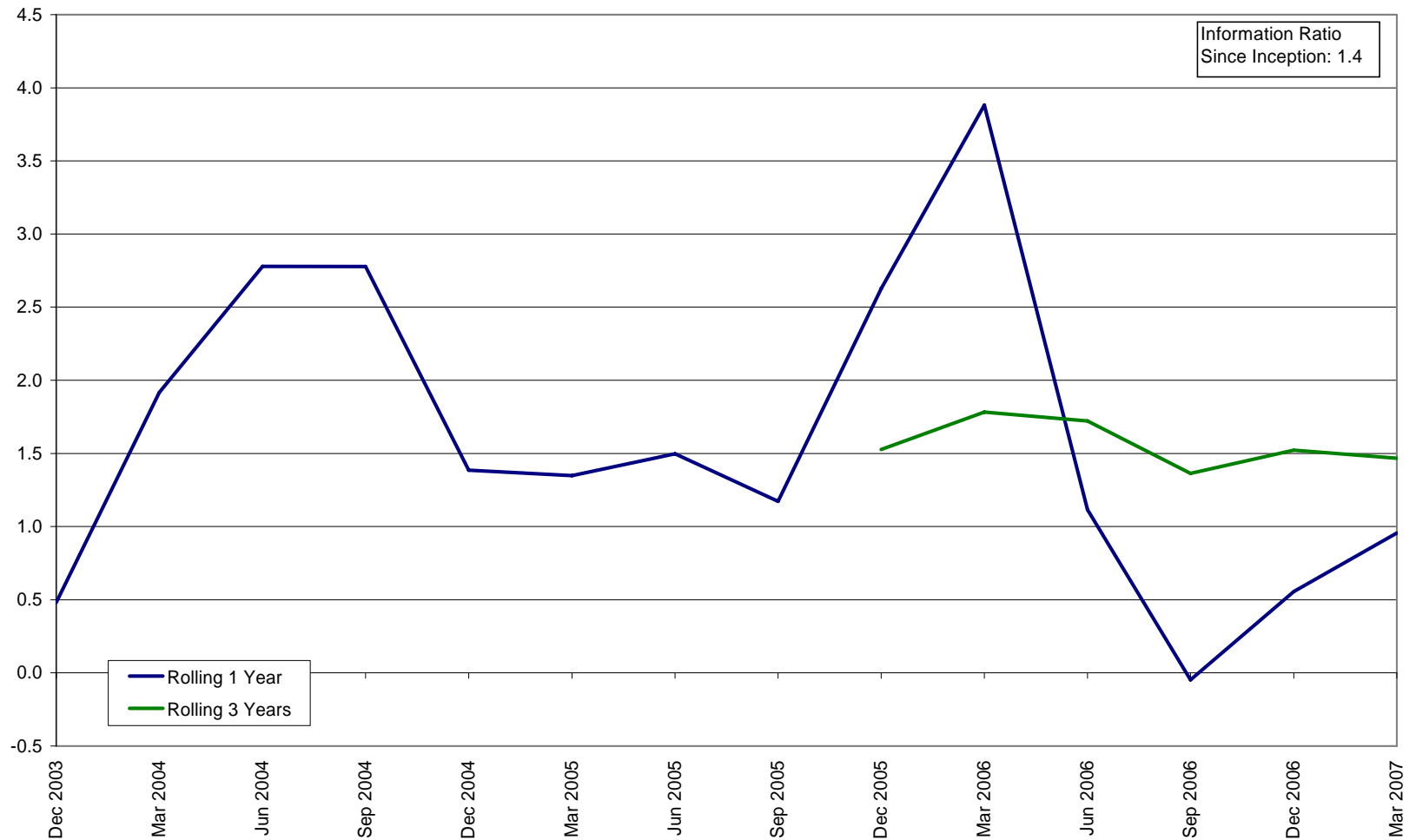
Inception Date December 31, 2002 - Period Ending March 31, 2007



Information Ratio

LSV Asset Management

Inception Date December 31, 2002 - Period Ending March 31, 2007

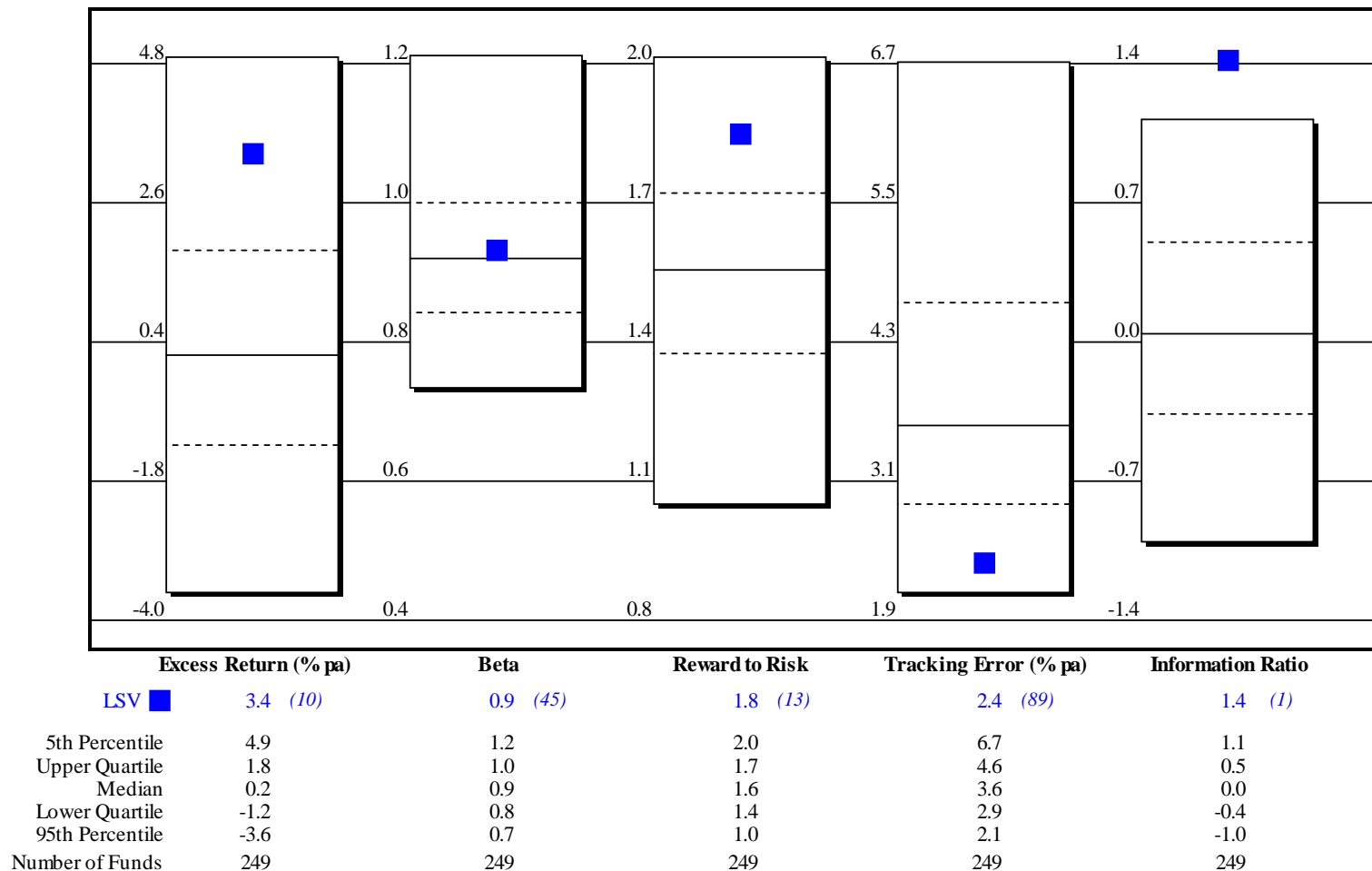


Calculated quarterly

Peer Comparison with the Mercer US Equity Large Cap Value Universe

LSV Asset Management

Inception Date December 31, 2002 - Period Ending March 31, 2007

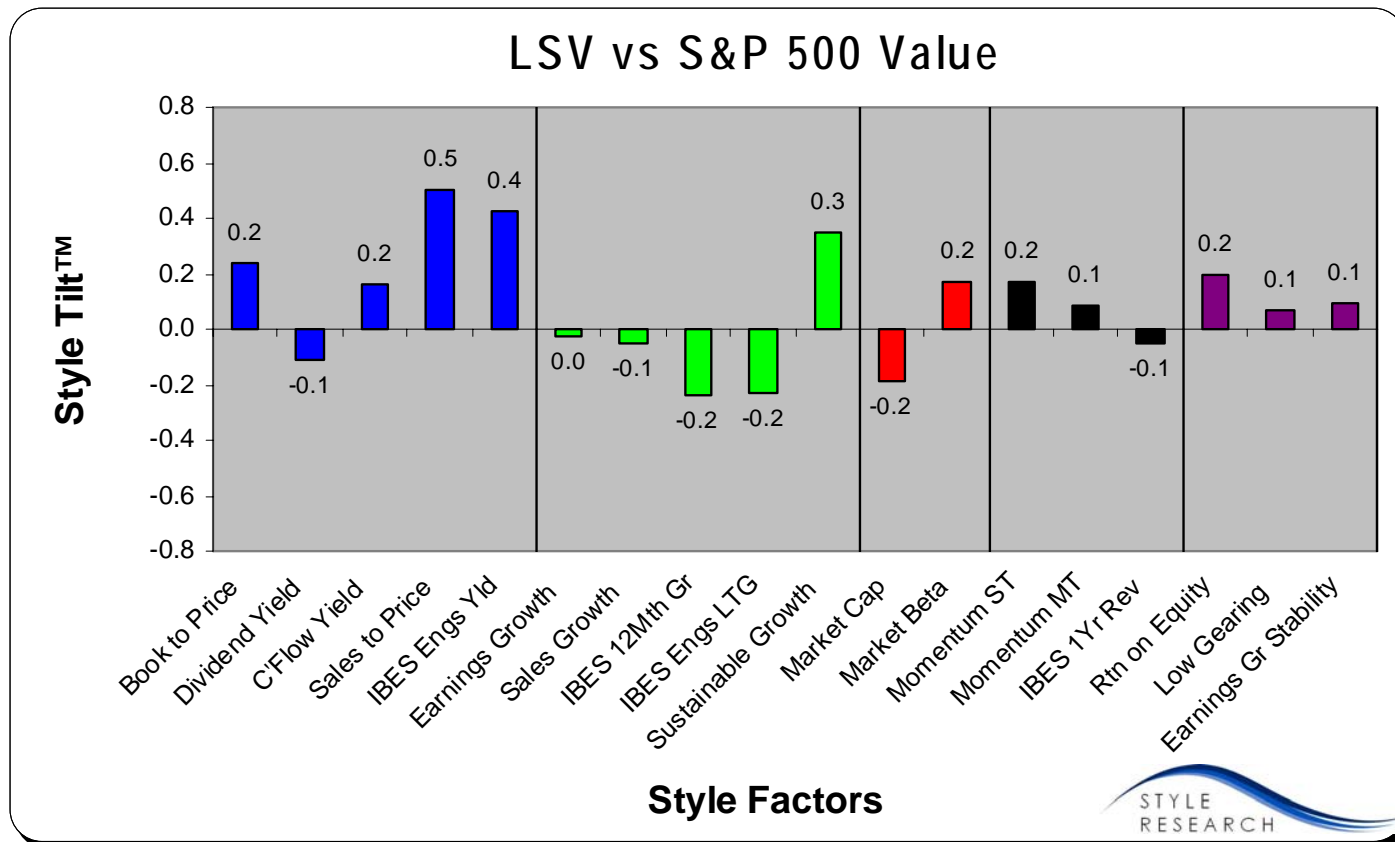


Risk and Return Characteristics calculated quarterly versus Custom Benchmark

Positions: Style Analysis – Portfolio Style Skyline

LSV Asset Management

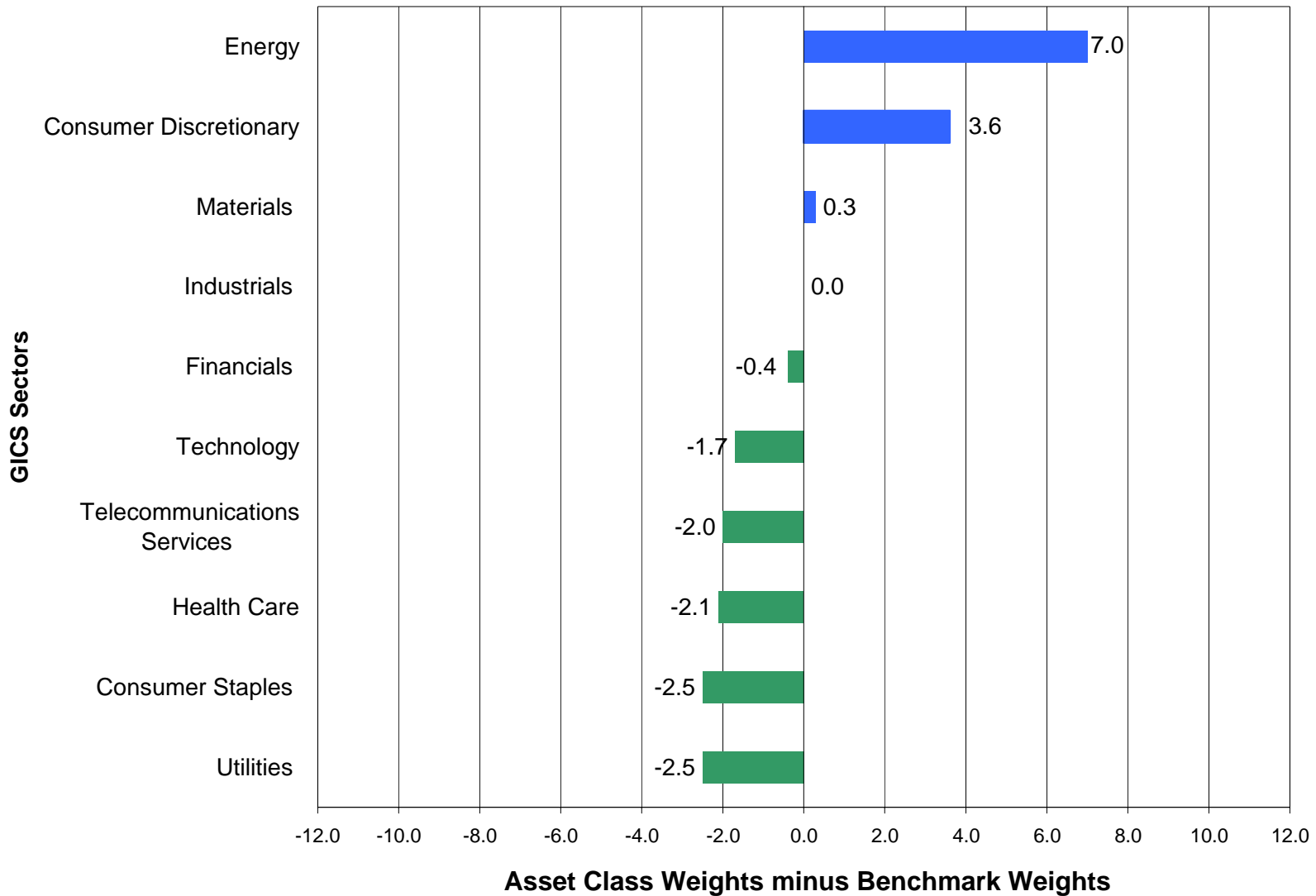
As of March 31, 2007



Positions: Economic Sectors

LSV Asset Management

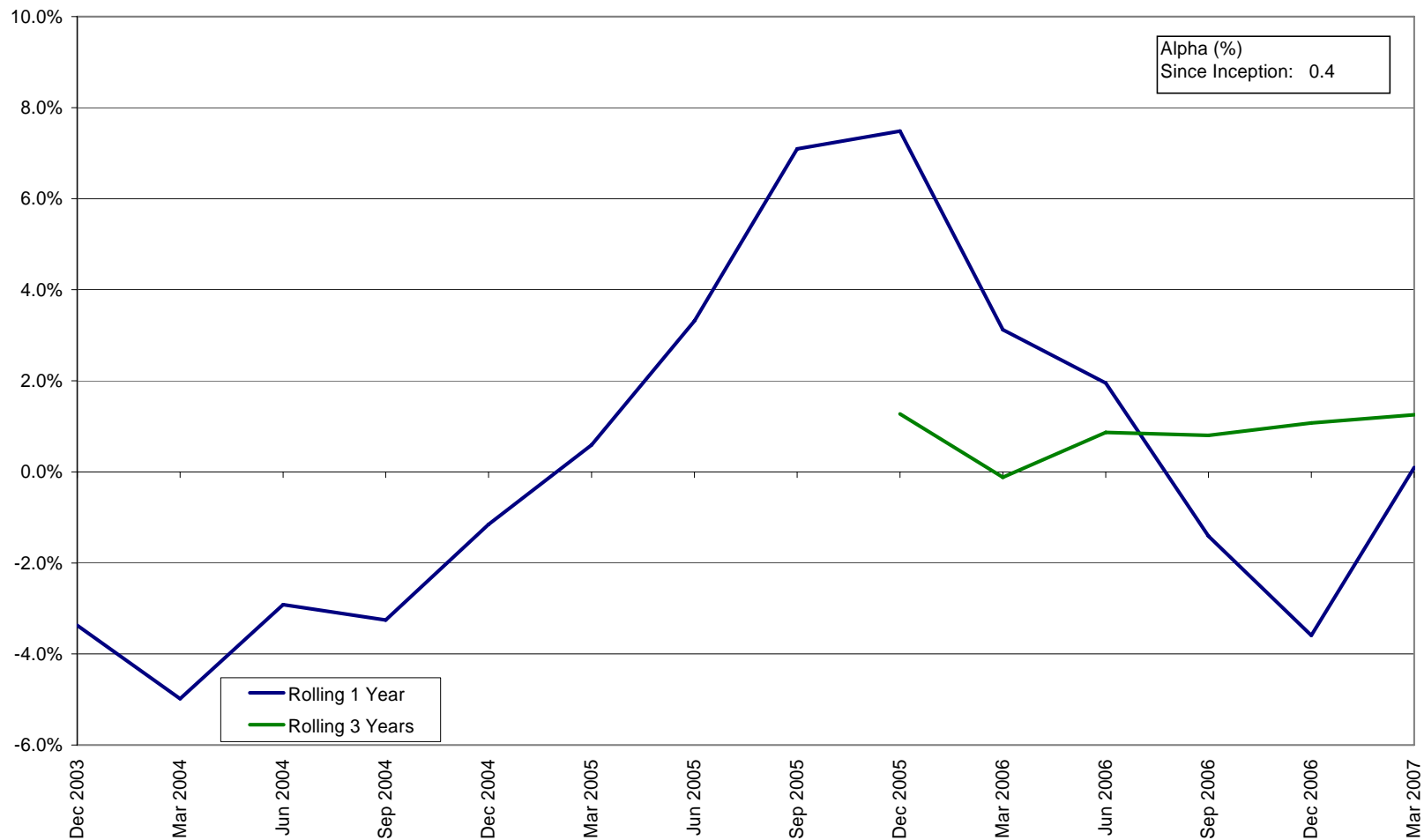
As of March 31, 2007



State Street Global Advisors Qualitative Factors

Factors	Description
People	<ul style="list-style-type: none"> • Team approach to portfolio management. Seven portfolio managers with an average of 13 years industry experience are dedicated to the US Active Quantitative Equity Team. • Portfolio managers work collaboratively with research analysts from SSgA's Advanced Research Center (ARC) to ensure quantitative factors and portfolio construction rules continue to add value.
Philosophy	<ul style="list-style-type: none"> • Believe that opportunities exist to add value in the large cap segment of the US equity market due to the behavioral biases of investors.
Process	<ul style="list-style-type: none"> • Investment opportunities are identified and exploited through rankings on valuation, quality and sentiment. The weights of these three drivers vary by industry. • Stock selection drives returns. • Use a linear optimizer in portfolio construction to construct portfolios with an optimum risk/return tradeoff. • Control risk by managing beta, style, size and sector exposures relative to the index. • New ideas often translate into factors or portfolio construction techniques that enhance the investment process.

Alpha
State Street Global Advisors
Inception Date December 31, 2002 - Period Ending March 31, 2007

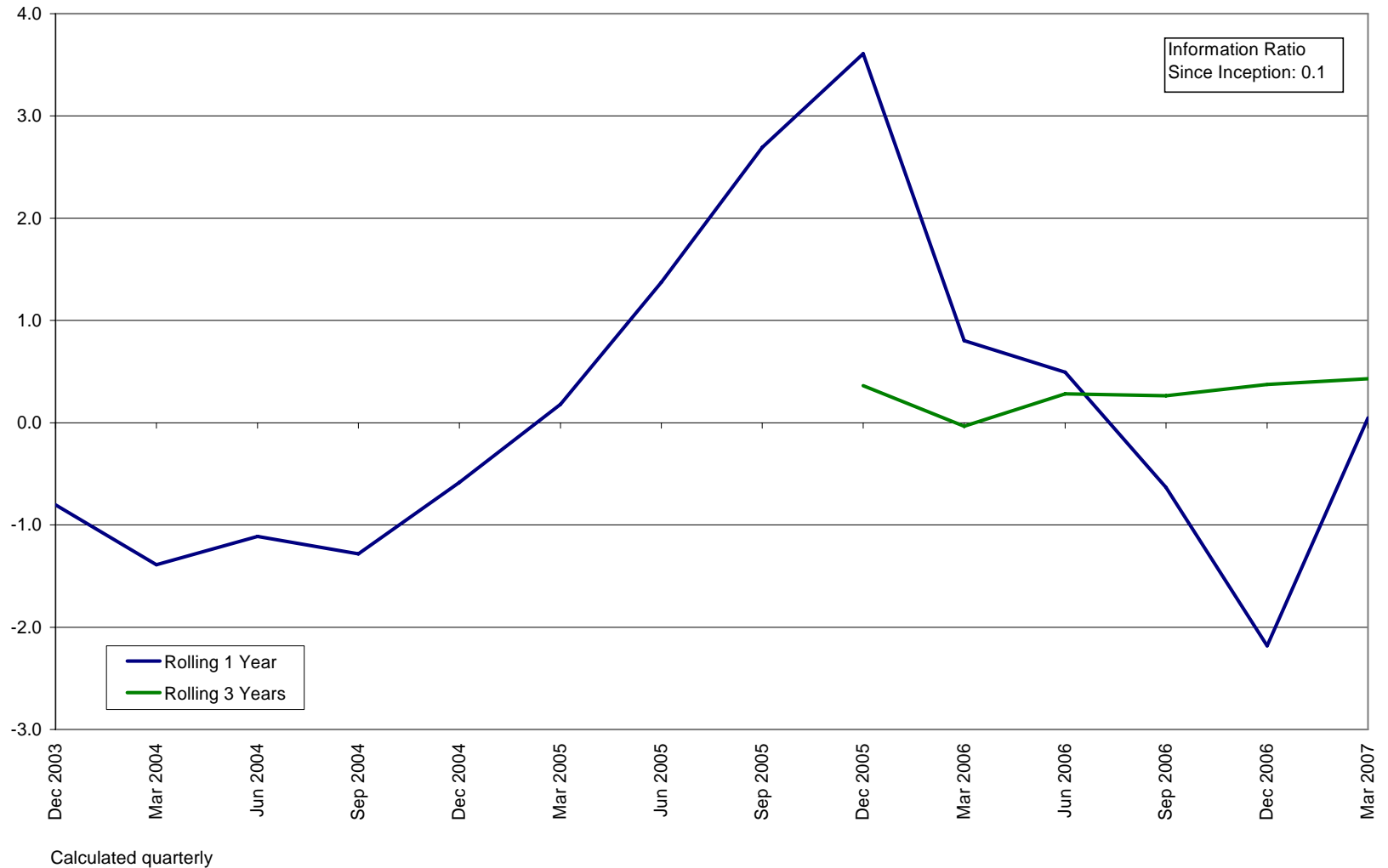


Calculated quarterly

Information Ratio

State Street Global Advisors

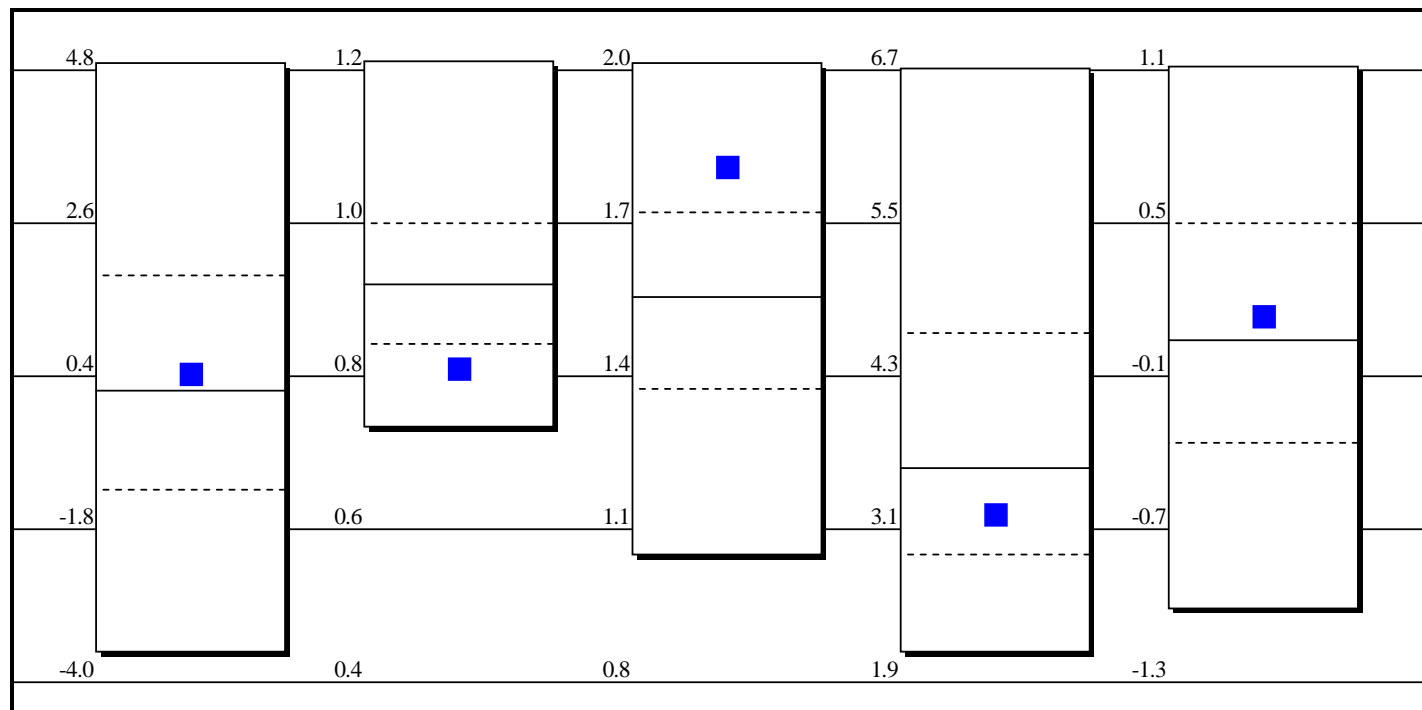
Inception Date December 31, 2002 - Period Ending March 31, 2007



Peer Comparison with the Mercer US Equity Large Cap Value Universe

State Street Global Advisors

Inception Date December 31, 2002 - Period Ending March 31, 2007



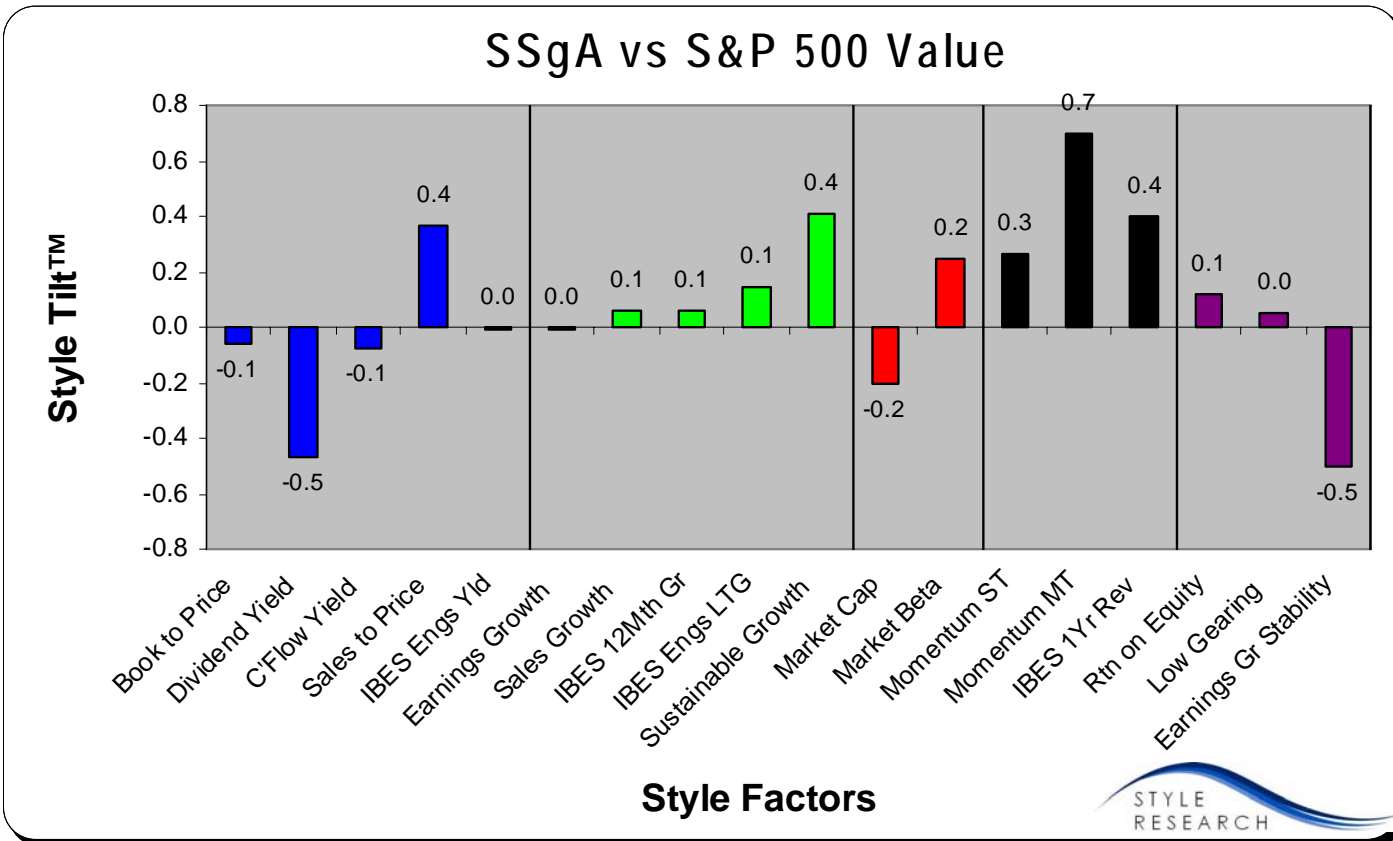
	Excess Return (% pa)	Beta	Reward to Risk	Tracking Error (% pa)	Information Ratio
SSgA	0.4 (44)	0.8 (83)	1.8 (16)	3.2 (62)	0.1 (42)
5th Percentile	4.9	1.2	2.0	6.7	1.1
Upper Quartile	1.8	1.0	1.7	4.6	0.5
Median	0.2	0.9	1.6	3.6	0.0
Lower Quartile	-1.2	0.8	1.4	2.9	-0.4
95th Percentile	-3.6	0.7	1.0	2.1	-1.0
Number of Funds	249	249	249	249	249

Risk and Return Characteristics calculated quarterly versus Custom Benchmark

Positions: Style Analysis – Portfolio Style Skyline

State Street Global Advisors

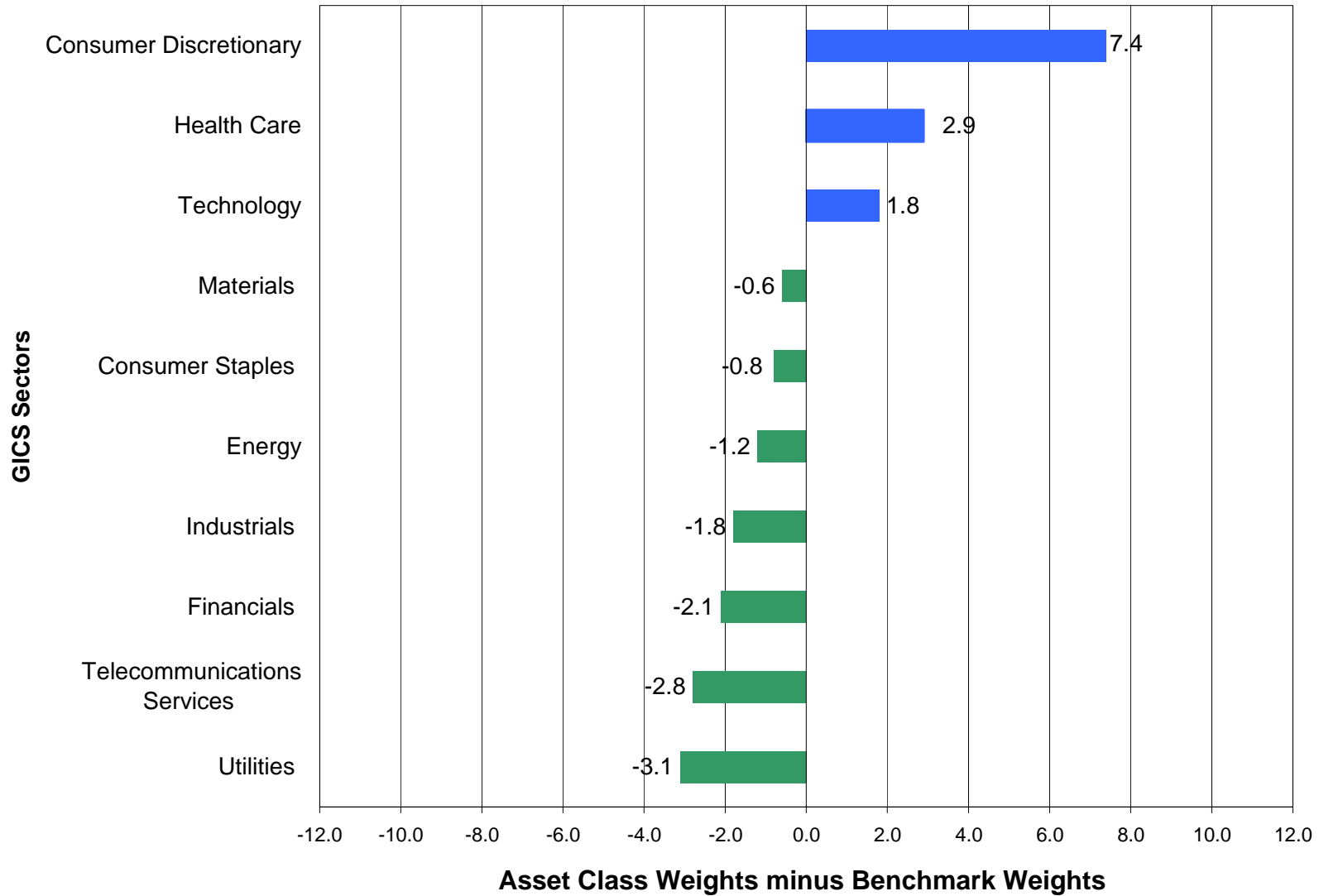
As of March 31, 2007



Positions: Economic Sectors

State Street Global Advisors

As of March 31, 2007



Jacobs Levy Equity Management

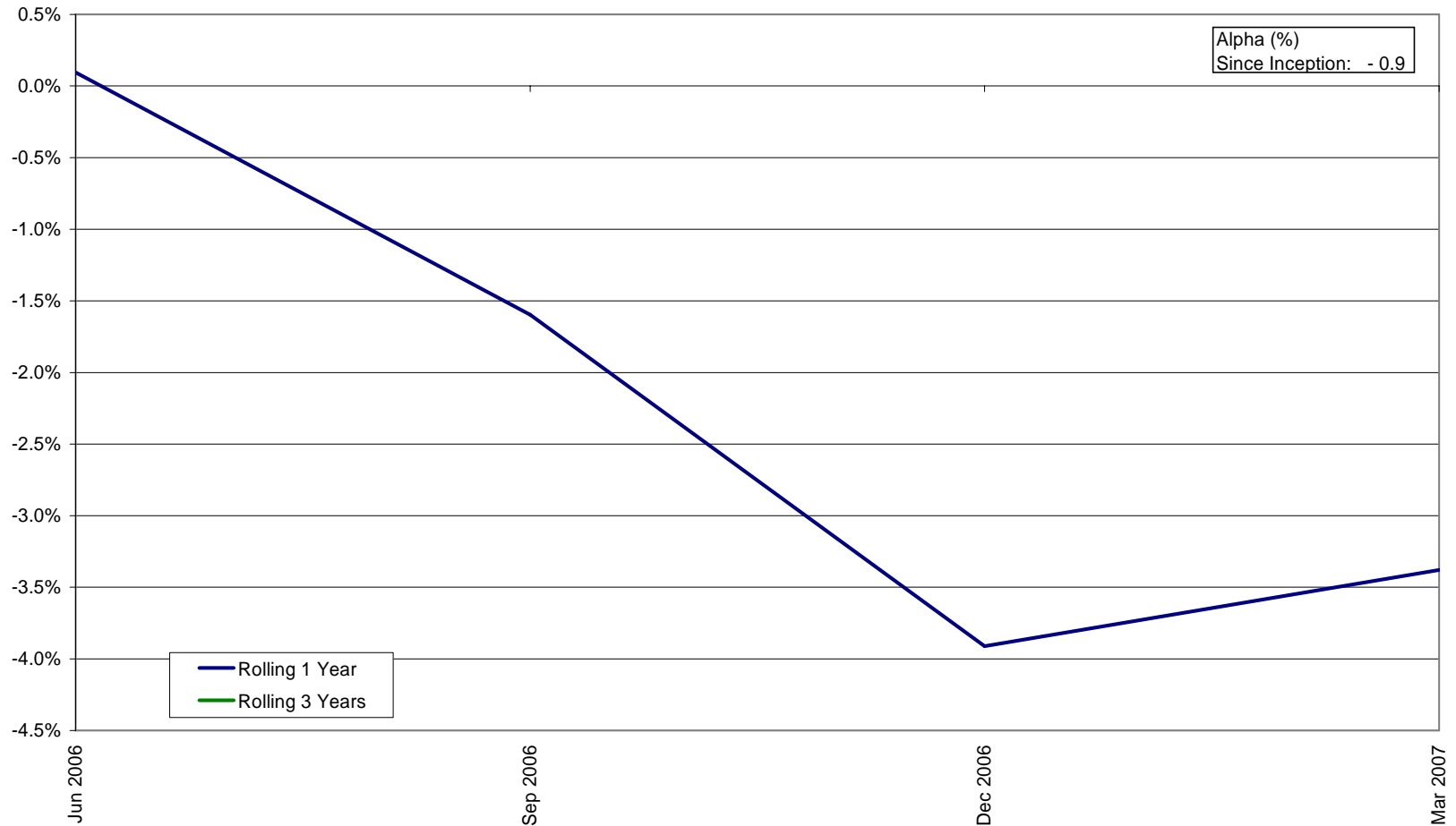
Qualitative Factors

Factors	Description
People	<ul style="list-style-type: none"> • Jacobs Levy is an independent investment firm. Principals Bruce Jacobs and Ken Levy founded the firm in 1986 and serve as co-portfolio managers and co-directors of research. • The research team is composed of three senior Ph.D. researchers and ten Investment Systems Analysts, all with advanced degrees.
Philosophy	<ul style="list-style-type: none"> • Believe market inefficiencies can be detected and exploited by “disentangling” stock returns to find true sources of alpha. • Believe one must maintain a dynamic and forward looking approach.
Process	<ul style="list-style-type: none"> • Models look at company information, human behavior, security pricing, and economic conditions. • Long-short investing permits more meaningful security under- and overweights. • Optimizer integrates the long and short positions relative to benchmark weights, accounts for hard to borrow stocks and actively limits the downside on short positions. • Sophisticated trading techniques and capacity constraints minimize transaction costs. • No leverage is used to obtain market exposure; short sales pay for additional longs; longs serve as collateral for shorts. • Broadly diversified across stocks, market inefficiencies and sectors.

Alpha

Jacobs Levy 120/20 S&P 500 Composite

Inception Date June 30, 2005 - Period Ending March 31, 2007



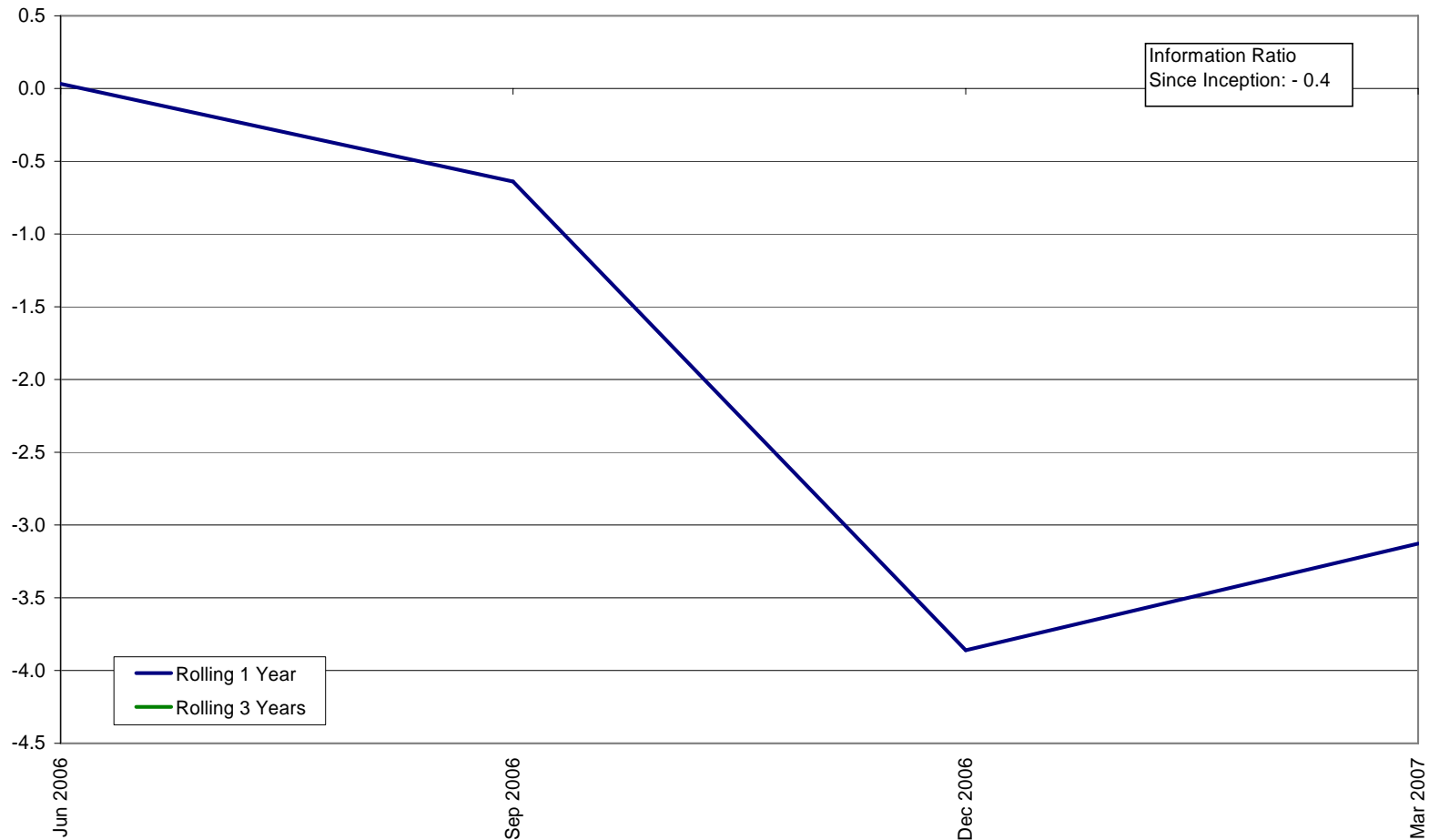
Calculated quarterly

As the ASRS Jacobs Levy account has less than one year of history available (inception date was 10/31/2006), composite data was used

Information Ratio

Jacobs Levy 120/20 S&P 500 Composite

Inception Date June 30, 2005 - Period Ending March 31, 2007



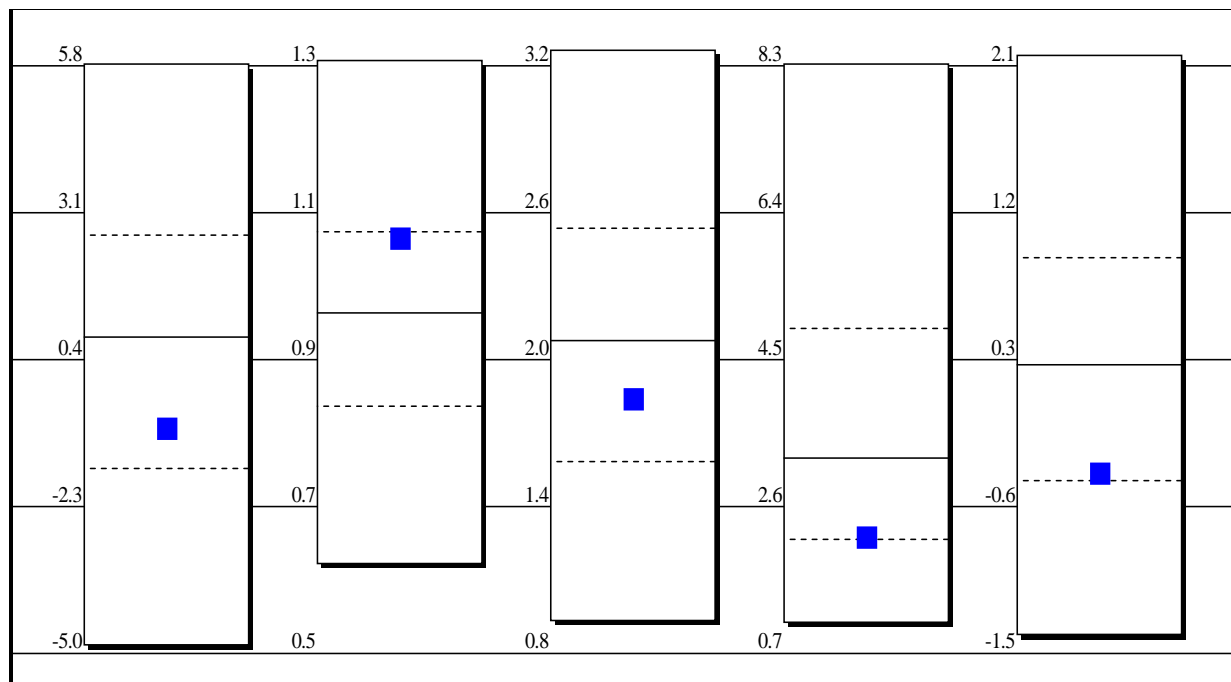
Calculated quarterly

As the ASRS Jacobs Levy account has less than one year of history available (inception date was 10/31/2006), composite data was used

Peer Comparison with the Mercer US Equity Large Cap Equity Universe

Jacobs Levy 120/20 S&P 500 Composite

Inception Date June 30, 2005 - Period Ending March 31, 2007



	Excess Return (% pa)	Beta	Reward to Risk	Tracking Error (% pa)	Information Ratio
M00JLSP ■	-0.9 (69)	1.1 (27)	1.8 (63)	2.2 (74)	-0.4 (74)
5th Percentile	5.8	1.3	3.3	8.3	2.2
Upper Quartile	2.7	1.1	2.5	4.9	0.9
Median	0.8	1.0	2.1	3.2	0.3
Lower Quartile	-1.6	0.8	1.6	2.2	-0.4
95th Percentile	-4.9	0.6	0.9	1.1	-1.4
Number of Funds	768	768	768	768	768

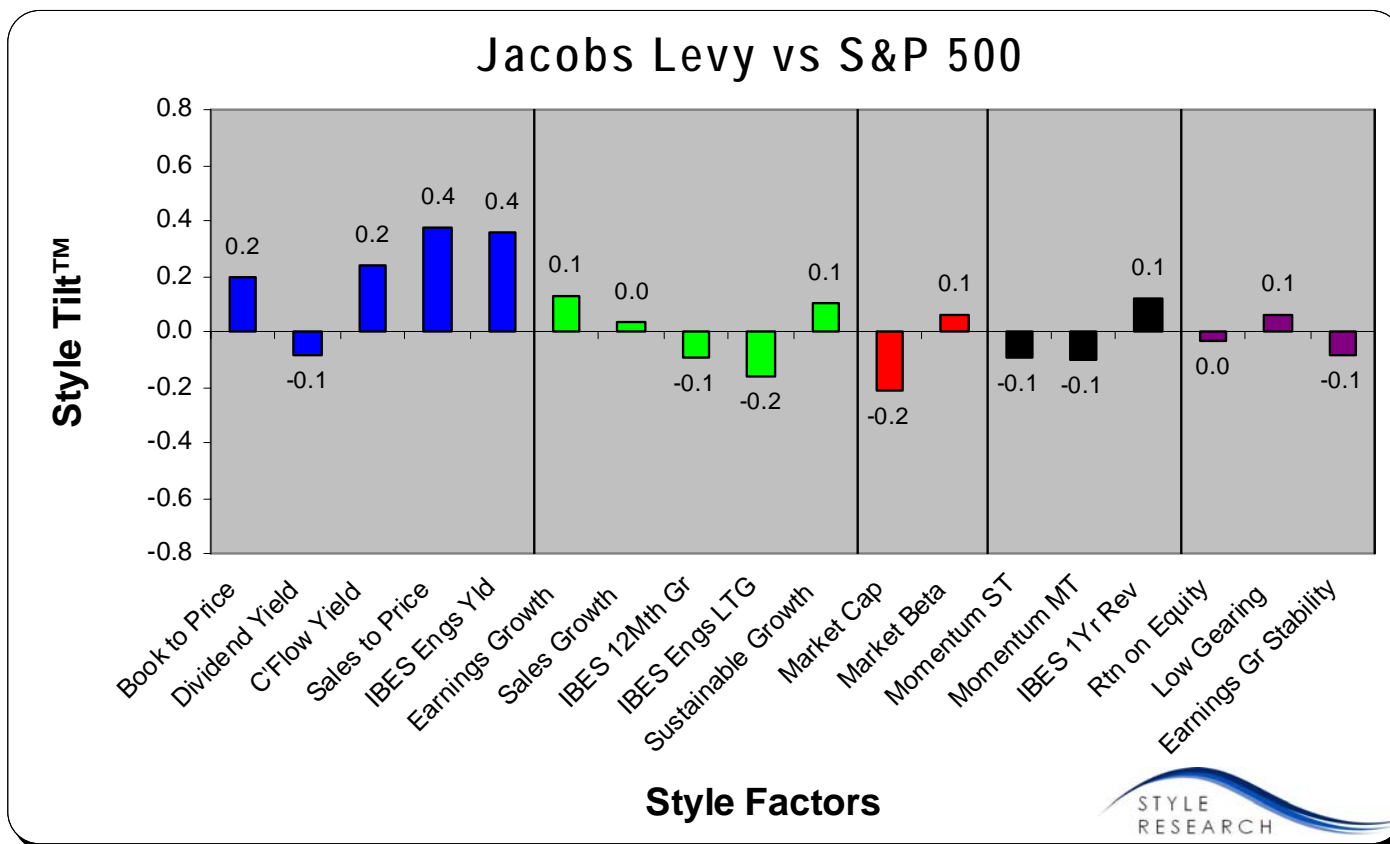
Risk and Return Characteristics calculated quarterly versus S&P500

As the ASRS Jacobs Levy account has less than one year of history available (inception date was 10/31/2006), composite data was used

Positions: Style Analysis – Portfolio Style Skyline

Jacobs Levy 120/20 Strategy

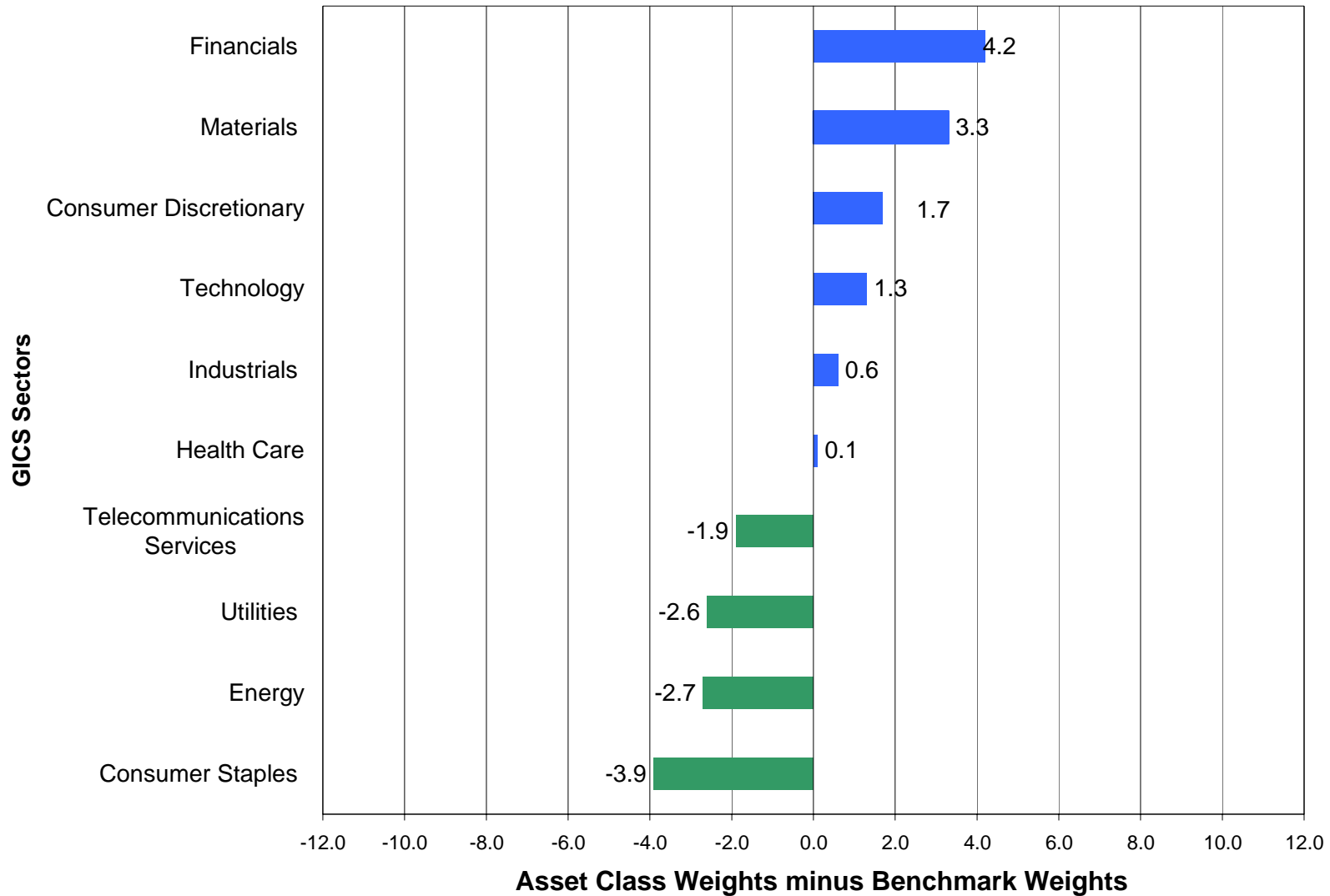
As of March 31, 2007



Positions: Economic Sectors

Jacobs Levy 120/20 Strategy

As of March 31, 2007



Alpha

Internally Managed ASRS E1

Inception Date September 30, 1995 - Period Ending March 31, 2007

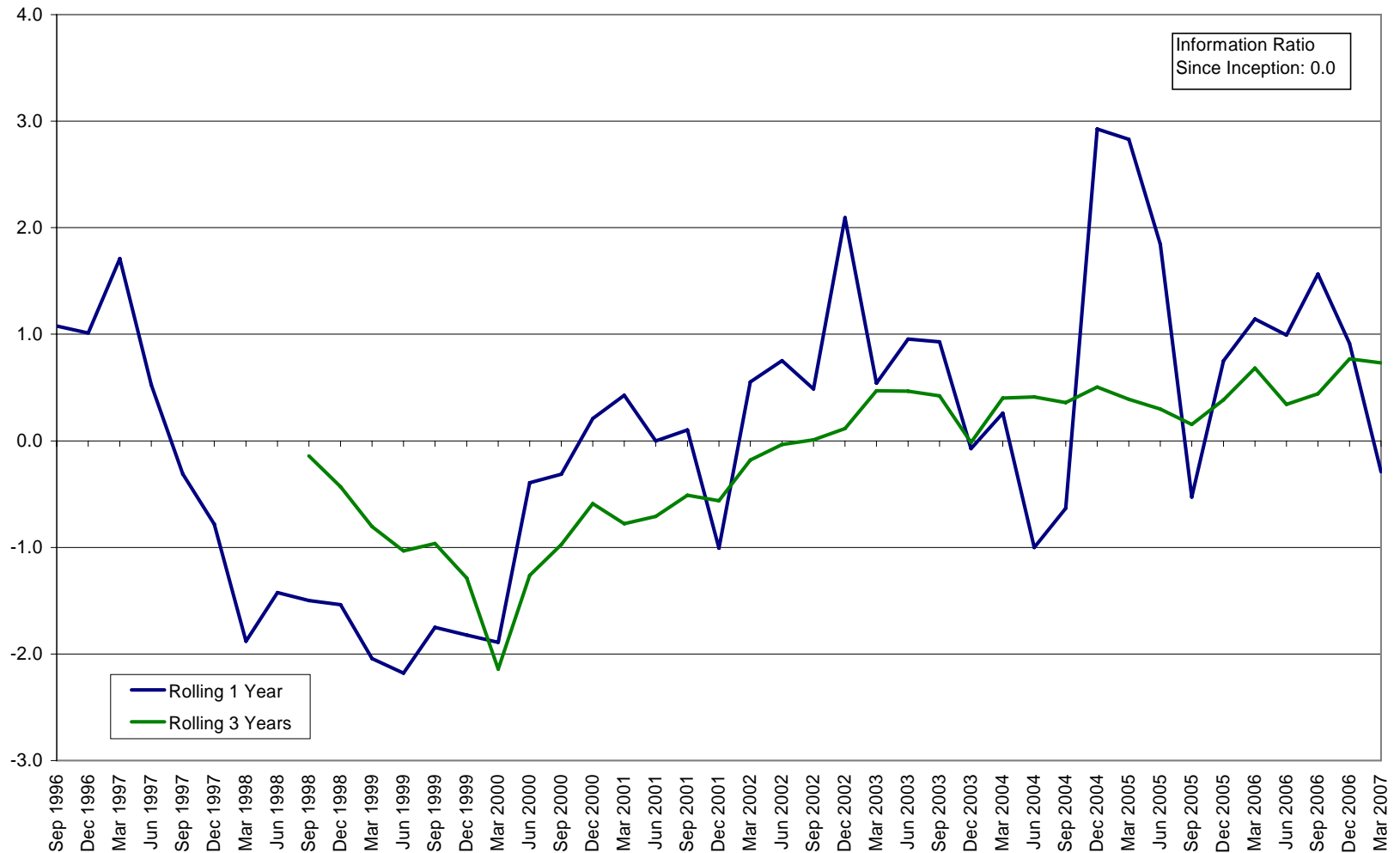


Calculated quarterly

Information Ratio

Internally Managed ASRS E1

Inception Date September 30, 1995 - Period Ending March 31, 2007

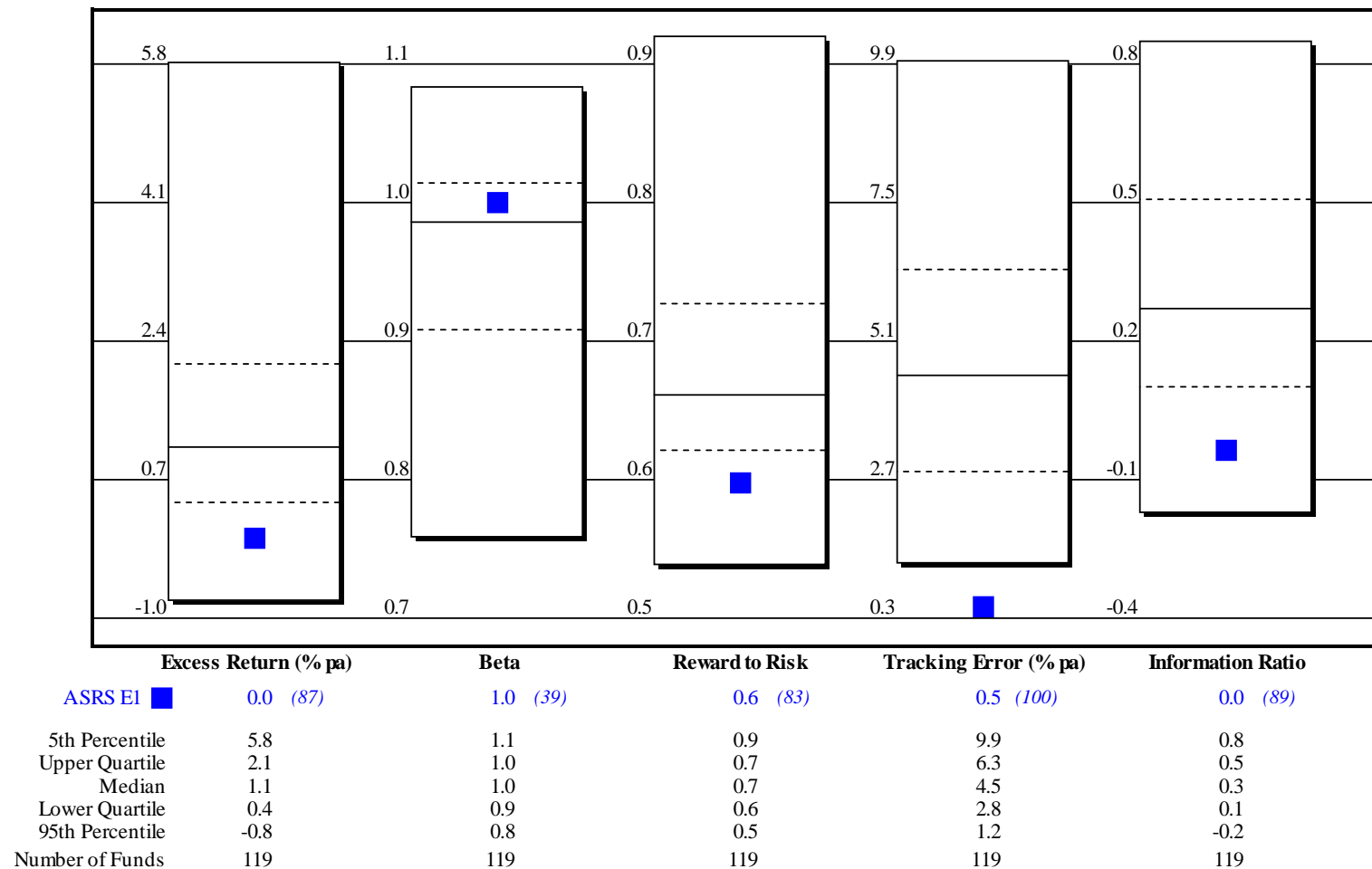


Calculated quarterly

Peer Comparison with the Mercer US Equity Large Cap Core Universe

Internally Managed ASRS E1

Inception Date September 30, 1995 - Period Ending March 31, 2007

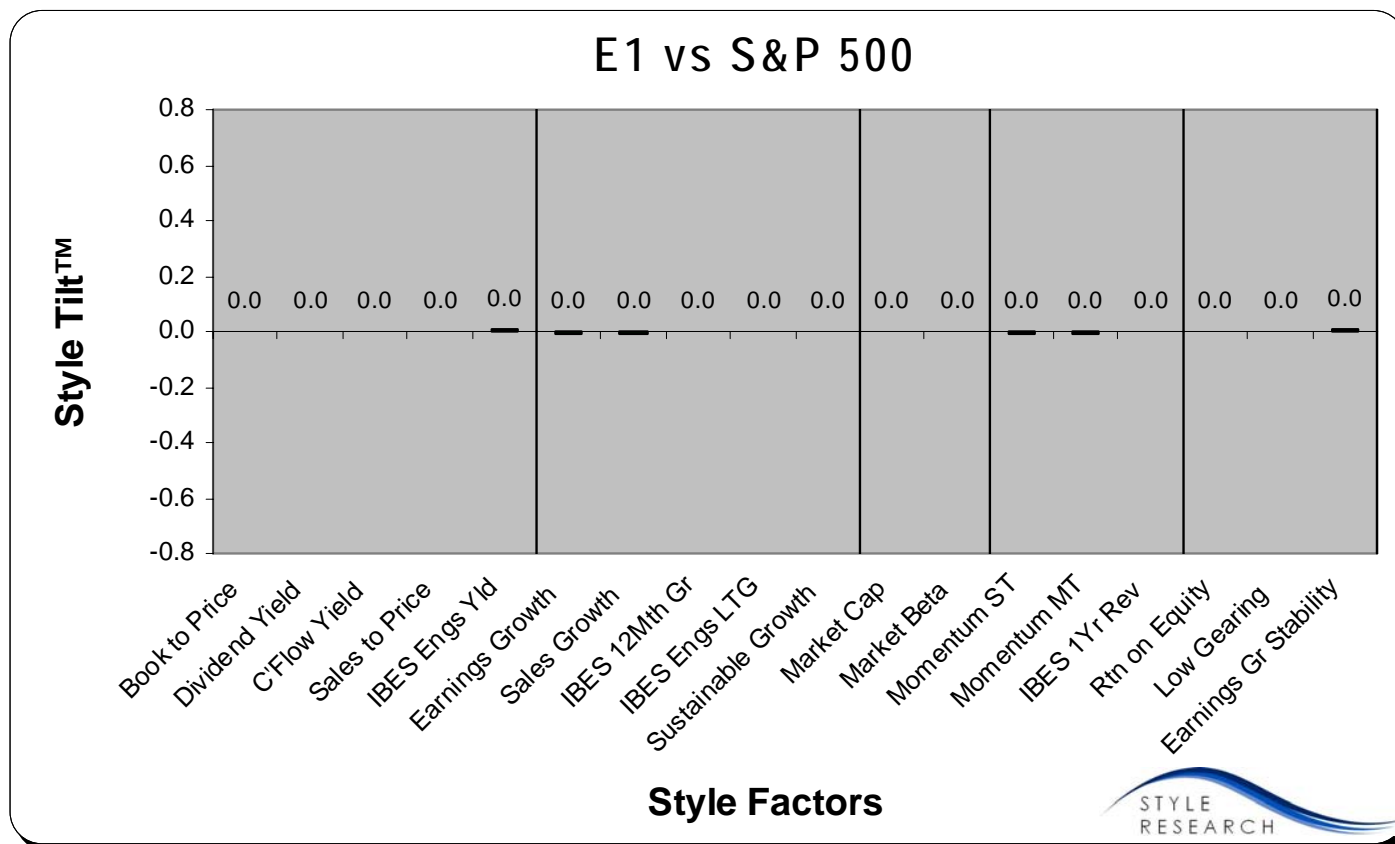


Risk and Return Characteristics calculated quarterly versus S&P 500

Positions: Style Analysis – Portfolio Style Skyline

Internally Managed ASRS E1

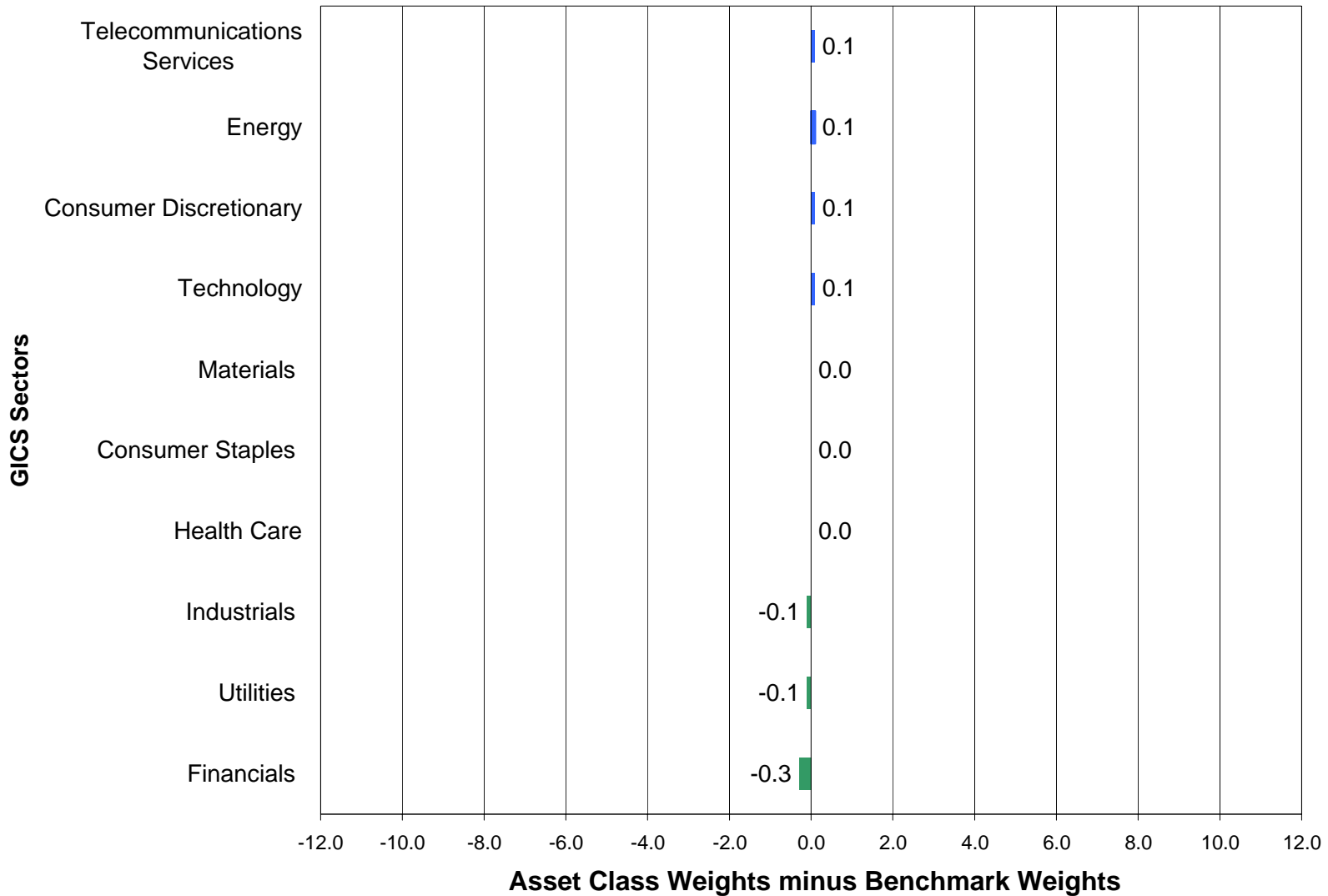
As of March 31, 2007



Positions: Economic Sectors

Internally Managed ASRS E1

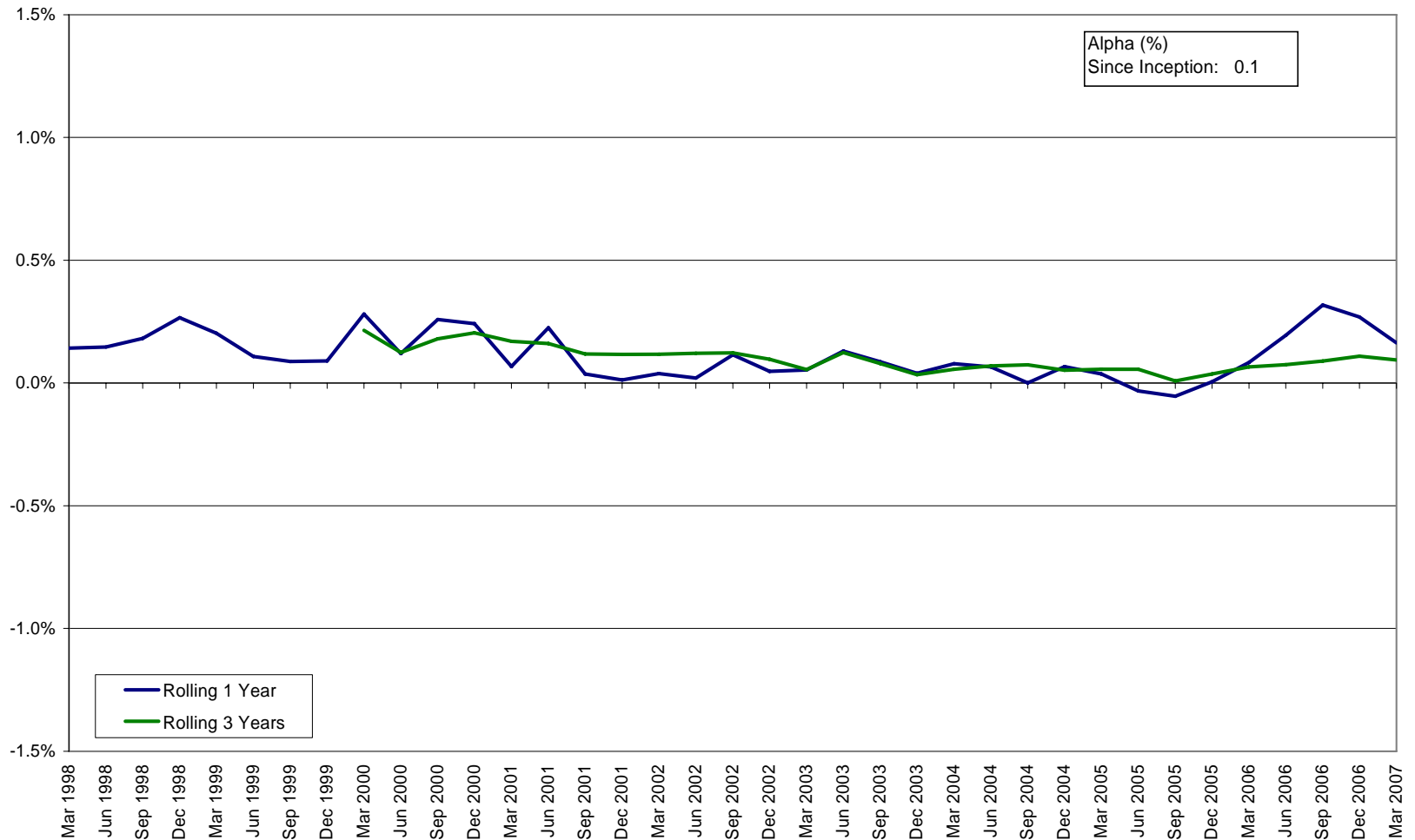
As of March 31, 2007



Alpha

Internally Managed ASRS E2

Inception Date March 31, 1997 - Period Ending March 31, 2007

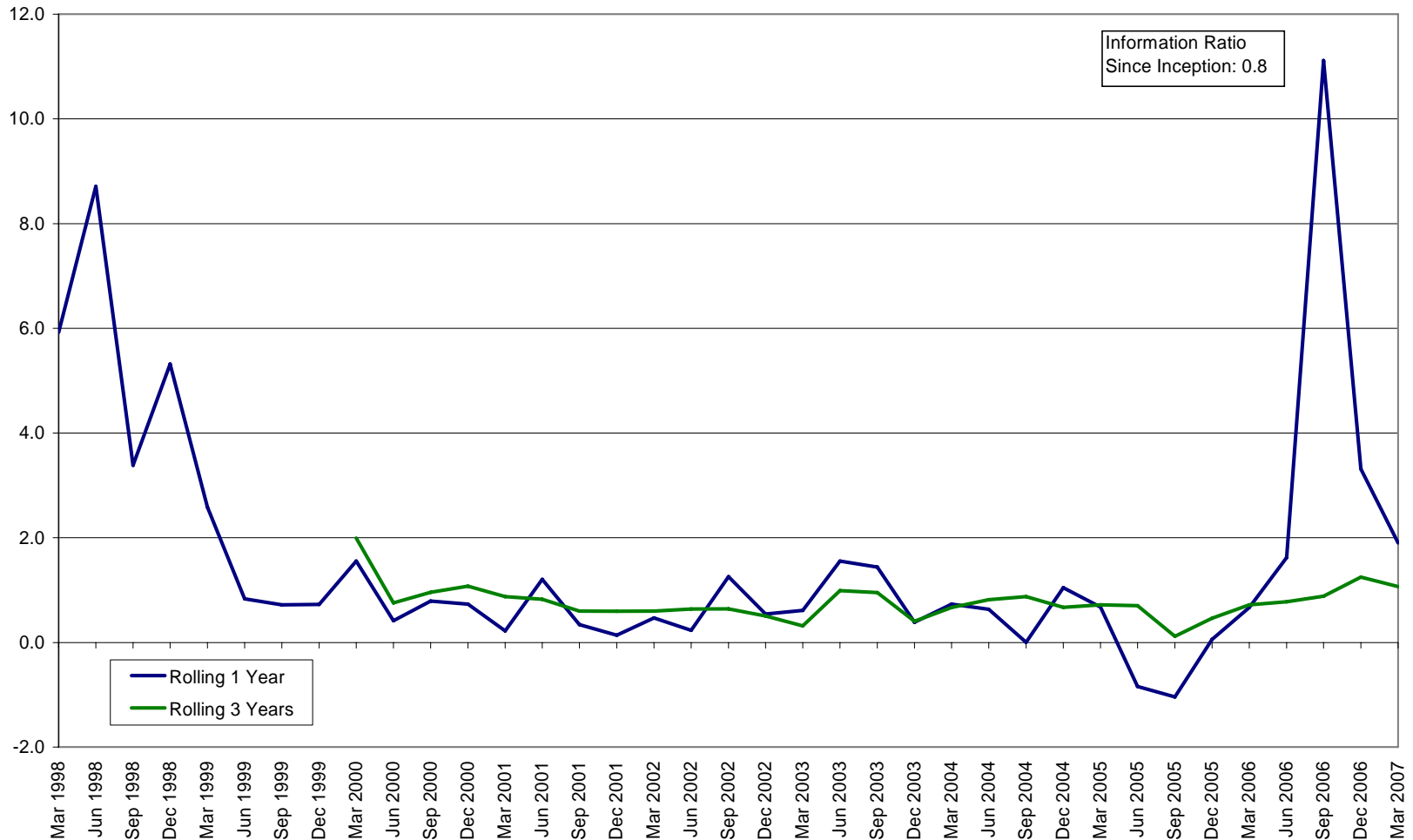


Calculated quarterly

Information Ratio

Internally Managed ASRS E2

Inception Date March 31, 1997 - Period Ending March 31, 2007

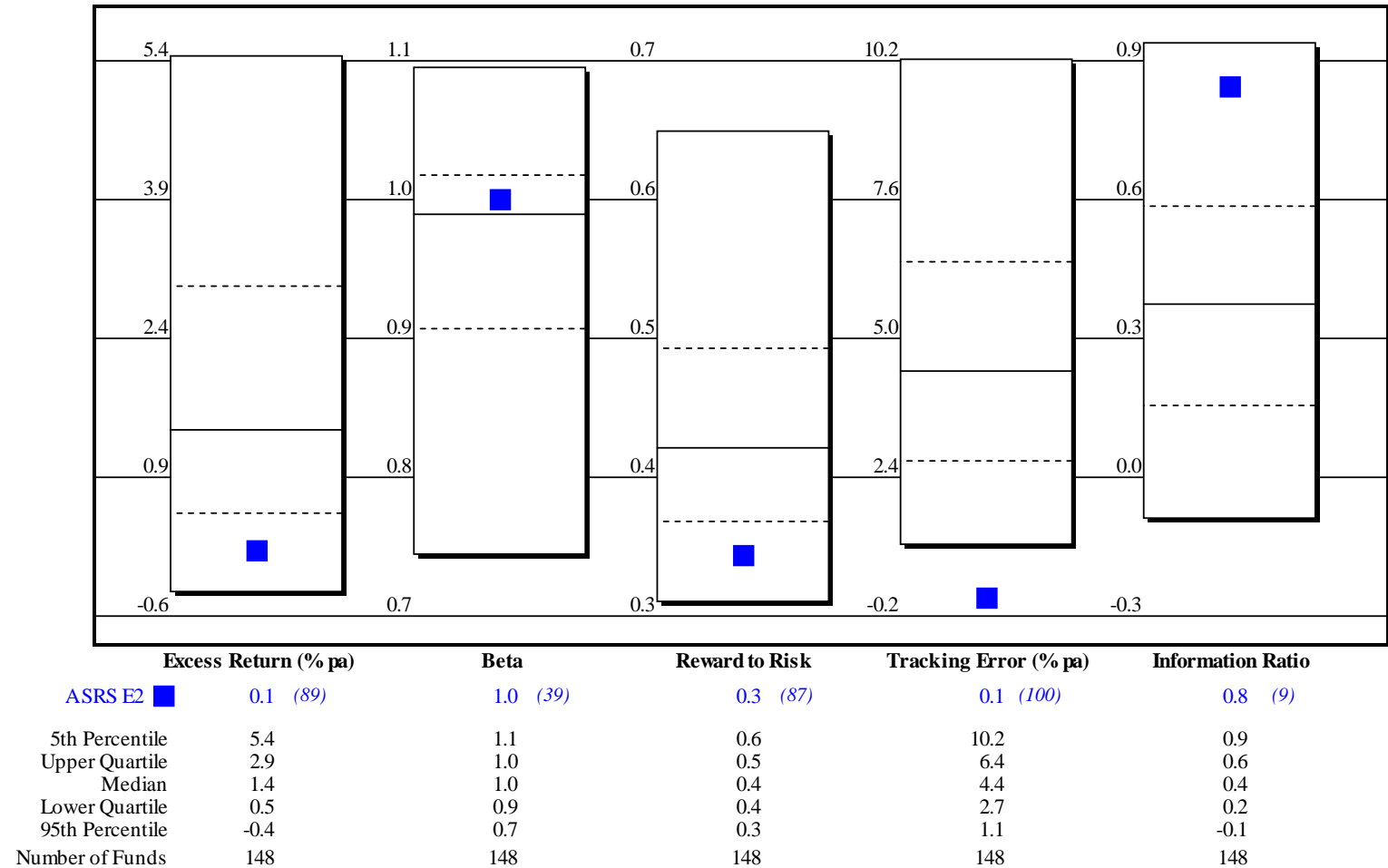


Calculated quarterly

Peer Comparison with the Mercer US Equity Large Cap Core Universe

Internally Managed ASRS E2

Inception Date March 31, 1997 - Period Ending March 31, 2007

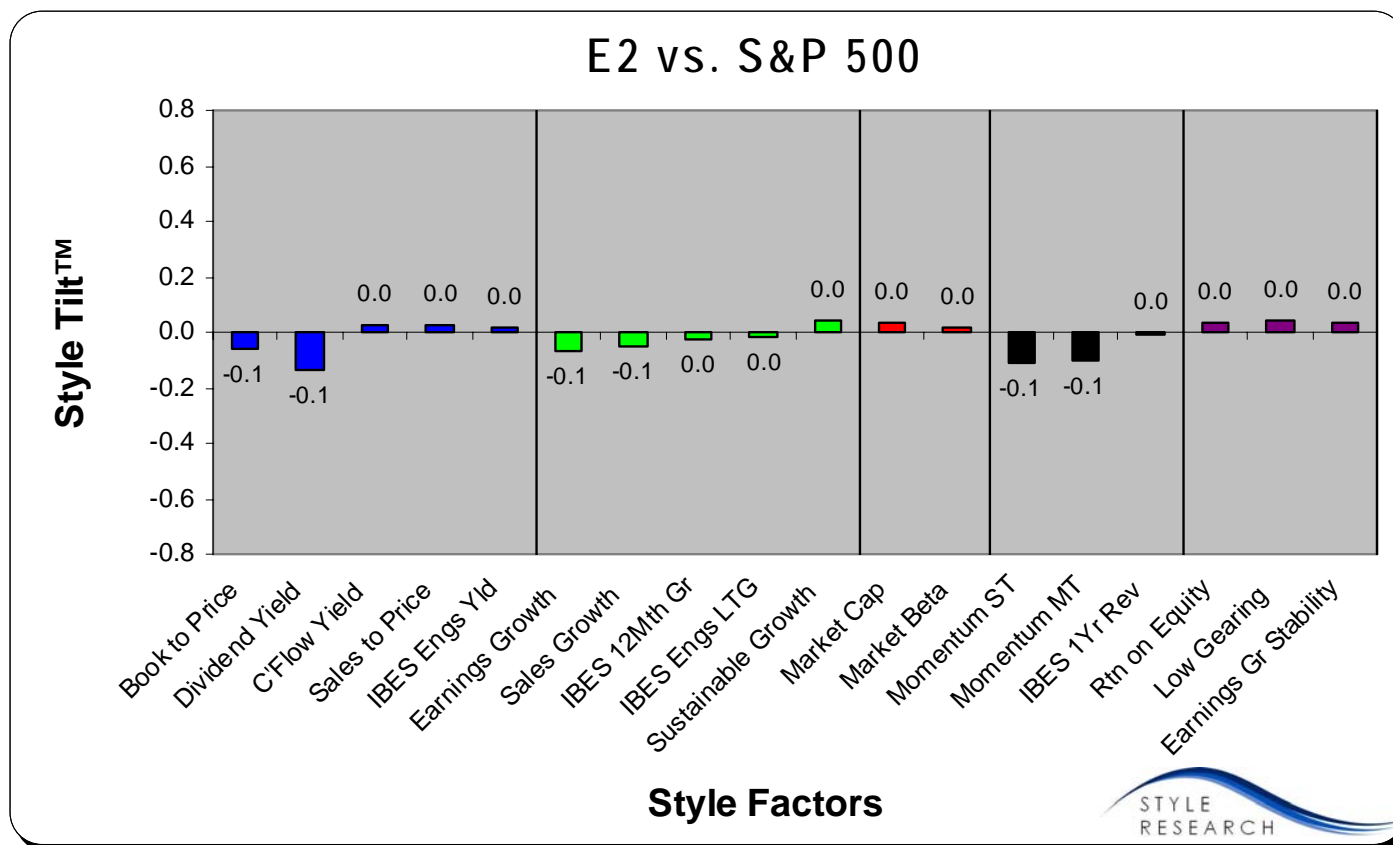


Risk and Return Characteristics calculated quarterly versus S&P 500

Positions: Style Analysis – Portfolio Style Skyline

Internally Managed ASRS E2

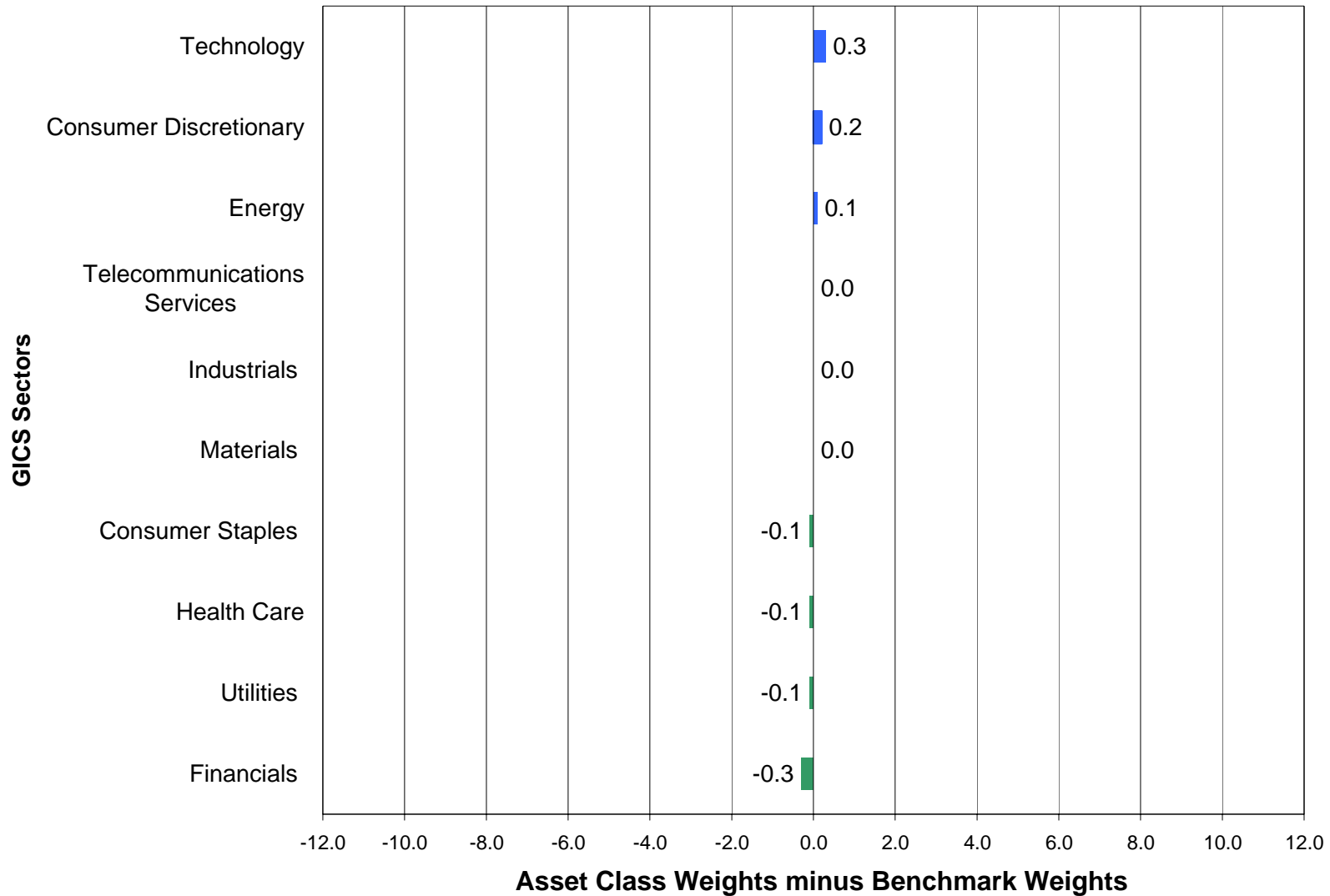
As of March 31, 2007



Positions: Economic Sectors

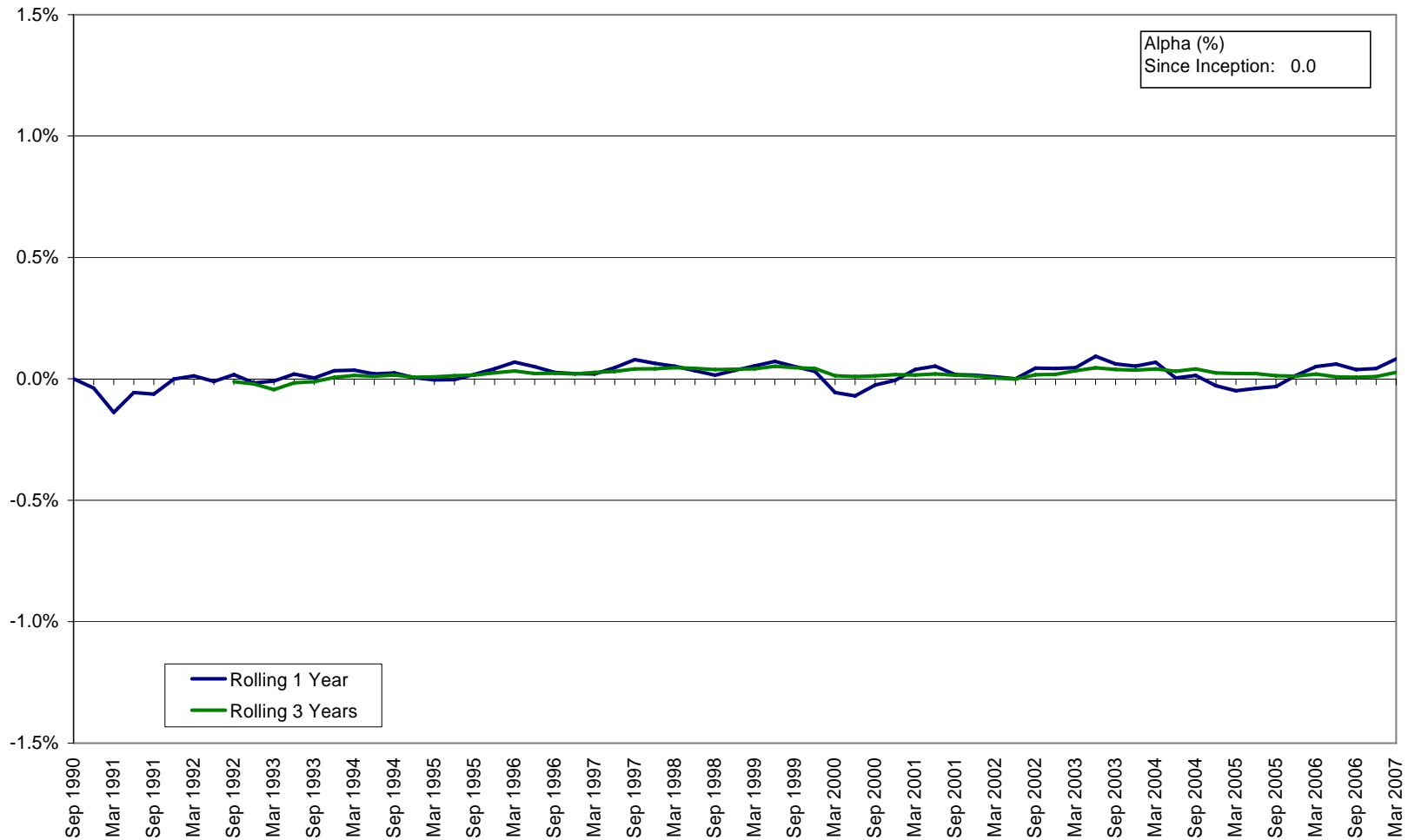
Internally Managed ASRS E2

As of March 31, 2007



Alpha BGI LCC Equity

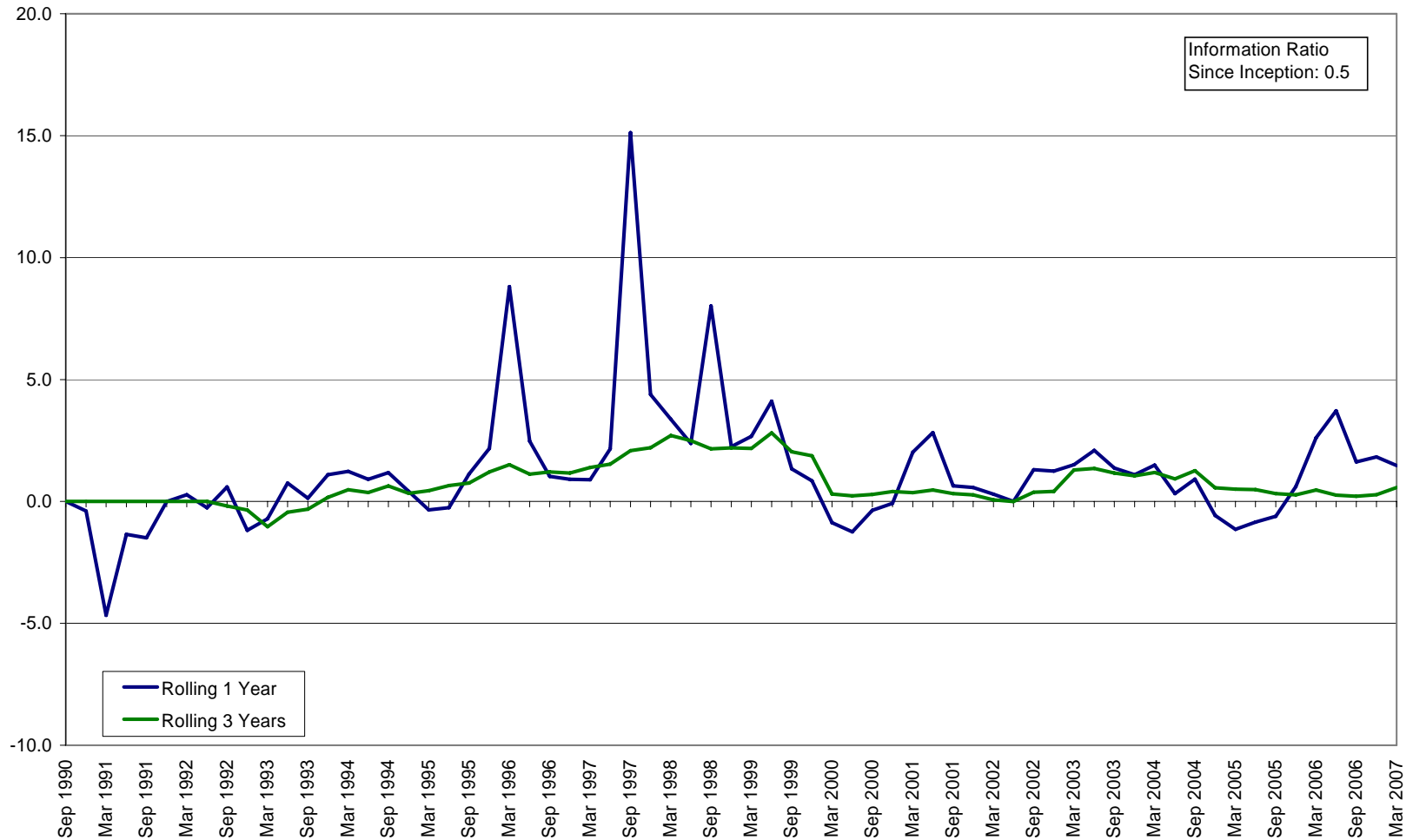
Inception Date July 31, 1989 - Period Ending March 31, 2007



Calculated quarterly

Information Ratio BGI LCC Equity

Inception Date July 31, 1989 - Period Ending March 31, 2007

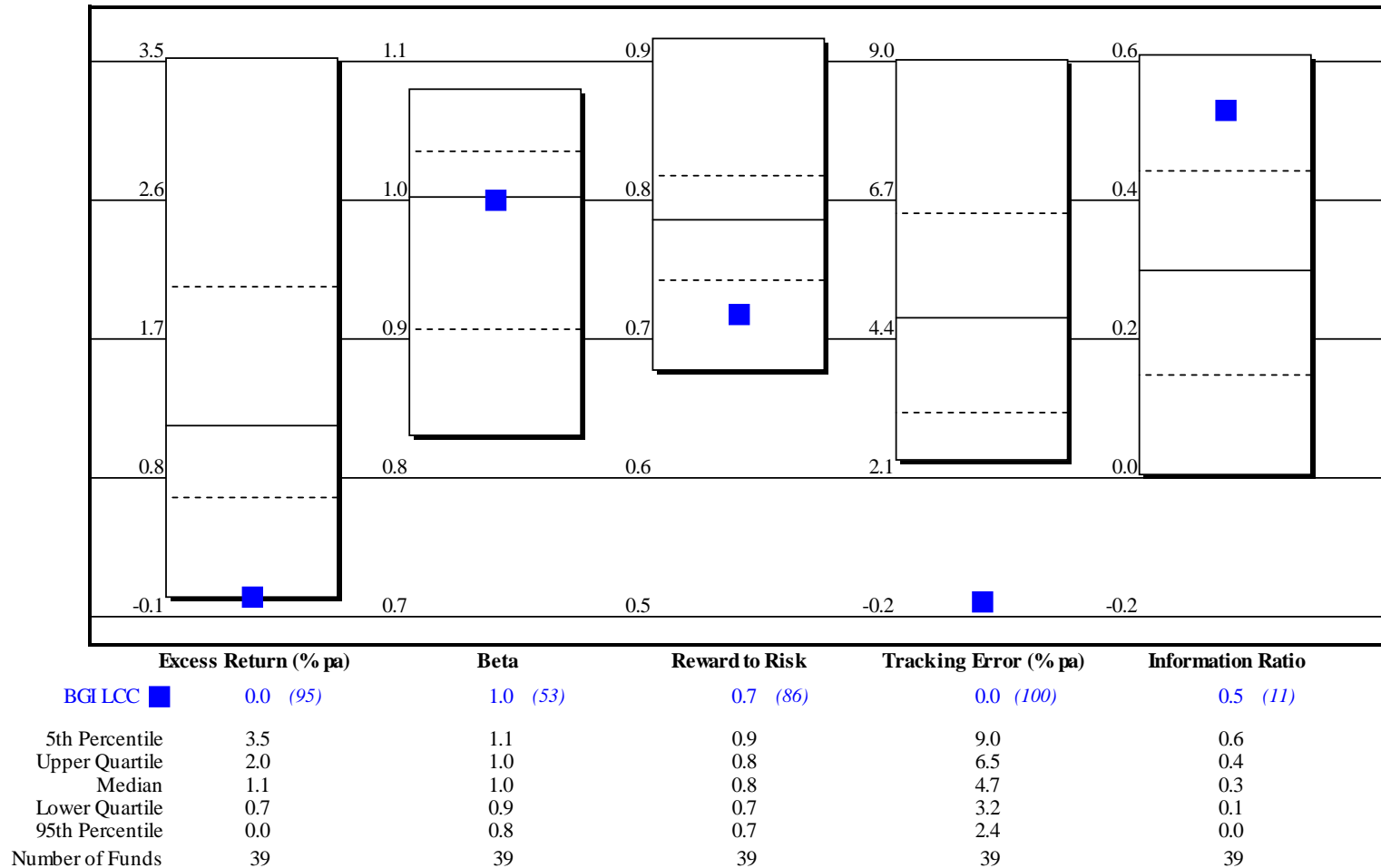


Calculated quarterly

Peer Comparison with the Mercer US Equity Large Cap Core Universe

BGI LCC Equity

Inception Date July 31, 1989- Period Ending March 31, 2007

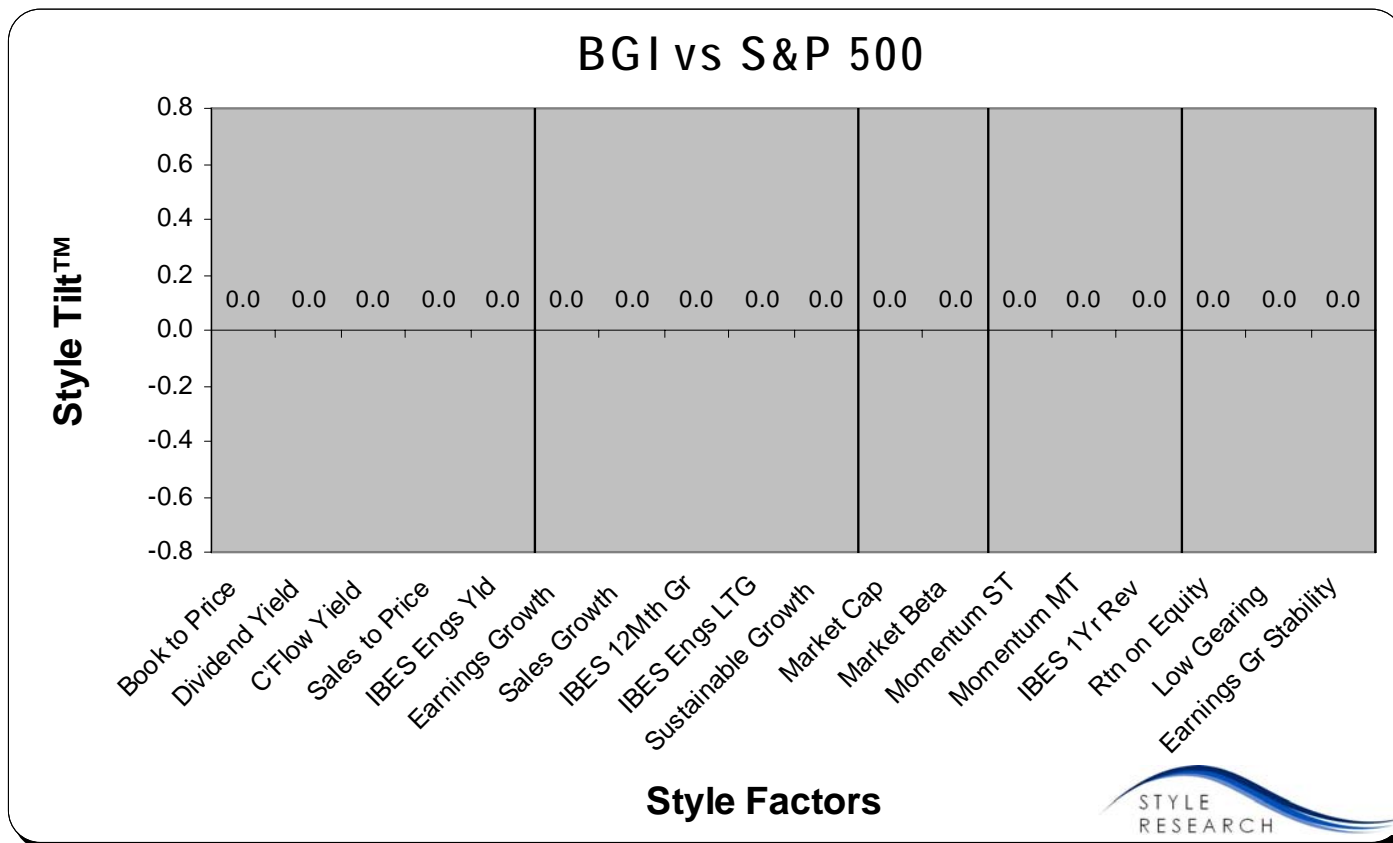


Risk and Return Characteristics calculated quarterly versus Custom Benchmark

Positions: Style Analysis – Portfolio Style Skyline

BGI LCC Equity

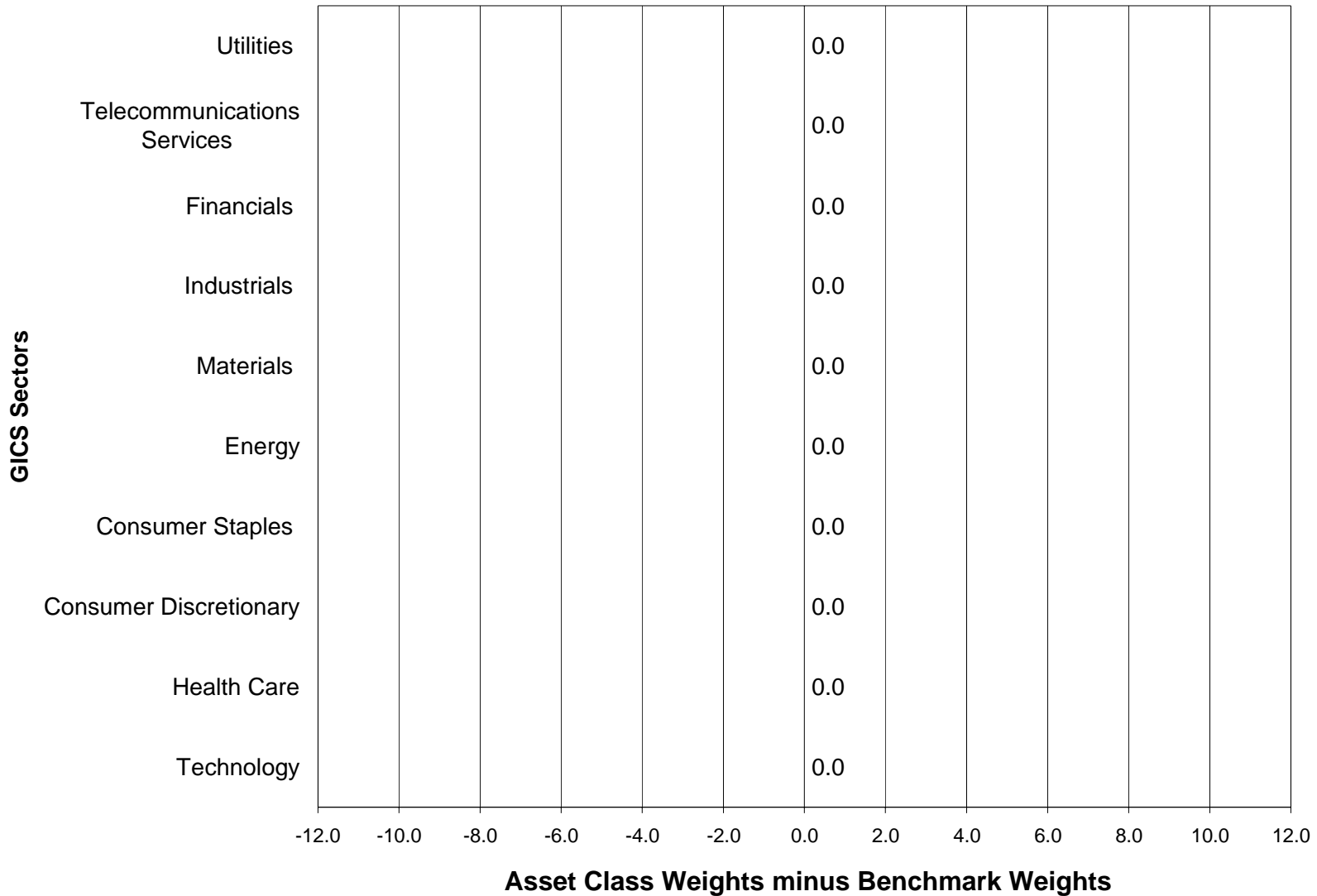
As of March 31, 2007



Positions: Economic Sectors

BGI LCC Equity

As of March 31, 2007



Unitization